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Leadership effects on organizational culture in a performance-based business environment

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LEADERSHIP EFFECTS ON ORGANIZATIONAL CULTURE IN A PERFORMANCE-BASED BUSINESS ENVIRONMENT

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DEDICATION

To my wife and children, I am forever grateful for your love and support. You are my reason for being able to attain my goal of higher education. Your continual encouragement and absolute faith in this endeavor made it possible for me to achieve this goal. The personal sacrifices you have made over the years, always thinking of me with understanding and love, means more to me than you will ever know.

I would like to pay tribute, as part of this dedication, to my mother and father. Mom, your prayers and faith have held me above the doubts that come with taking on such a grueling journey as doctorate studies. "Wisdom of the Head of Christ, guide me in all Your ways," are the words I will continue to start each day with.

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VITA

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ABSTRACT

This study reveals the leadership attributes utilized by successful private aerospace industry executives. These attributes have been proven necessary to transform organizational culture in a performance-based business environment, resulting in positive outcomes of a collaborative performance-based culture. The study utilized a qualitative case study method to identify effective leadership attributes for delivering outstanding performance characteristics recognized by the DoD and aerospace industry. Multiple forms of data collection include results of a Leadership Practices Inventory® assessment and formal interviews of 5 senior leaders from three major aerospace companies. These leaders were chosen because of their involvement with premier life cycle sustainment acquisition programs either as an innovator, pathfinder, or employees who have proven themselves in the execution of a performance-based contract.

This performance-based environment includes names such as performance-based logistics (PBL), life cycle systems sustainment, and performance-based life cycle support. Regardless of the name, this transformational approach to contracting is recognized as a successful strategy for providing weapon system support when and where it is needed to support the warfighter mission, while providing best value. Conceptual support through review of related literature was necessary, and supports the study.

The study identifies those key leadership attributes proven effective in performance-based environments, the impact to organizational culture, and outcomes resulting from that culture. The clear themes of leadership attributes derived from this study include transformational actions of keeping customers at the forefront of key decisions, empowering teams, and driving innovation. These are examples of enablers

for organizational culture driven by a common vision, mission, and goals aligned with stakeholders' needs and leading to performance outcomes that effectively balance cost, performance, and other customer imperatives. This study provided the opportunity to bridge theory and practice through research and evaluation of salient issues and relevant organizational concerns for leading a performance-based life cycle sustainment program. This research concludes that organizations working together in a collaborative integrated product team (IPT) environment have substantial benefits leading to cost reduction, reduced risk, and optimized fleet war readiness for U.S. military.

Chapter 1: The Problem

Introduction

Researchers have conducted many studies to determine methods for maintaining complex weapon systems while reducing costs significantly. According to Berkowitz, Gupta, Simpson, and McWilliams (2009), "the Department of Defense (DoD) initiated a long-term program to link performance to major system acquisition through a concept called performance-based logistics (PBL), which represents an integrated Performance-Based Environment (PBE) for both acquisition and sustainment" (p. 256). For the purposes of this study, acquisition programs will refer to large-scale platforms such as aircraft. PBL is a process that employs and combines U.S. Government and Department of Defense Policy and Public Law with private industry business rules and best practices to create value in a public/private relationship. This is important considering the current U.S. budget crisis and the U.S. military being called upon to deploy to multiple locations in efforts against terrorism and concurrently support humanitarian missions worldwide. It is also appropriate to note that as aircraft age in years or through continuous flight hours or cycle times, the dollars spent on maintenance continue to increase.

According to an acquisition specialist Ott (2010), the U.S. DoD's decade-old drive to make effective product purchases and service transactions, for delivery of weapon platforms, subsystems, and components—getting them to the right place on time and on budget—has reshaped government-to-industry relationships and is growing with militaries around the globe. PBL is the instrument for accomplishing this feat of managing contracts between contractors, suppliers, the government, and at times a string of stakeholders. PLB is widely regarded as successful. To dispel any question on the

value of PBL contracts, the DoD chartered an independent study to evaluate the effectiveness and affordability of performance-based strategies. According to Boyce and Banghart (2012), the study concluded that "PBL arrangements that substantially adhere to generally recognized PBL tenets reduce DoD cost per unit of performance while simultaneously driving up the absolute levels of system, sub-system, major component readiness/availability when compared to non-PBL arrangements" (p. 30).

However, there is only limited empirical research available regarding performance-based business criteria and the organizational culture of large corporations that conduct business with the USG. A literature search on the background of performance-based criteria revealed that in the spring of 2000, a goal was established to allocate at least 50% of all service acquisitions, measured in dollars and contracts, as performance-based. Prior to establishing this goal, the U.S. Air Force issued a publication *Air Force Instruction (AFI) 63-124, Performance-Based Service Contracts* (PBSC), which contains guidance on implementing performance-based practices for purchasing a wide range of services to support its installations, employees, and war-fighting capability. Under this concept, customers describe what service is desired and contractors determine how to do it, using measurable performance standards and quality assurance plans. Customers specify procedures for reductions in fee or price when services do not meet contract requirements and include performance incentives where appropriate (Ausink, Baldwin, Hunter, & Shirley, 2002). Research reveals that performance-based environments are process driven with emphasis on outcomes, versus transactional driven tasks that a company may be put on contract to perform and deliver.

A performance-based culture focuses on working together effectively to drive growth and productivity, creating increased value for a contractor's customers, shareholders, and employees. According to Boyce and Banghart (2012), "the Department spends more than $90 billion on sustainment every year. A conservative estimate of savings that could result from broadly transitioning to PBL sustainment across the DoD ranges from 10% to 20% every year" (p. 30). Despite this information, there continues to be much debate on what value is derived from this type of relationship, and what measurable outcomes are evident for all concerned. This researcher believes this examination of performance-based culture within the business industry adds meaningfully to the body of knowledge and further defines value for defense contracting. Simply, benefits cannot be recognized without people working together.

Statement of Problem

Some researchers and leaders of organizations believe that working together effectively in a collaborative environment has its benefits. These relationships lead to information sharing that creates greater visibility, and value is added for all supply chain constituents, as evidenced by practices of companies such as Apple and Dell (Walker, Bovet, & Martha, 2000). But, there is little research that describes (a) how to form these relationships and (b) the leadership attributes necessary to shape organizational culture to operate effectively in this environment. For the leader of an integrated product team, there is no recipe for shaping a cross-cultural team consisting of public and private individual members to develop them into a highly effective organization. This researcher believes that this study is be meaningful for leaders interested in determining how to best establish collaborative organizational culture and the inherent benefits of a

performance-based culture. To establish and benefit from this culture, this study determines and reveals (a) the leadership attributes necessary to transform organizational culture in a performance-based business environment, (b) the effects of a performance-based culture, and (c) what leadership actions are necessary for a cross cultural merger.

The term *performance-based contracting* implies a departure from a traditional transactional business arrangement to a performance-based outcome culture. Leading researchers on PBLs explain that since the inception of PBL, various agencies have tried to develop definitions, implementation guidelines, and infrastructure to attain the goal of integrating the goals of acquisition and sustainment, through performance-based initiatives. Berkowitz et al. (2009) described attempts by organizations in the DOD to use PBL approaches in acquisition and sustainment efforts, though they also surmised, there is no clear and universally acceptable study that defines the impact PBL has on organizational culture. Therefore, there is no clear understanding of the behavioral drivers that make PBL outcomes desirable. Hence, organizational culture behavior guidelines for PBL are at best ad-hoc and incomplete.

Since 2005, this researcher has witnessed how public sector budget cuts mandated that contractors lower their costs for products and services while still maintaining high performance metrics. The impact of this mandate on social, political, economical, legal, and technological decisions for both the USG and its defense contractors is unknown. The impact on organizational culture is also unclear as contractors work at a fast pace to develop organizations that will conform mandates and goals targeted through initiatives such as Vision 2020 currently being introduced by senior DoD leaders to private industry at aerospace industry conferences such as AIA. This study seeks to identify those

leadership attributes that have proven successful in highly regarded performance-based logistics programs, as recognized by public and private industry. In addition, this study seeks to determine what effect performance-based contracts have on organizational culture and identify what value is created as a result of that organization.

Importance of the Study

This study examined successful PBL programs, exploring the issues and complexities of the relationships that exist in contractor organizations. Leadership attributes were examined to define organizational behavior for complex weapon systems such as aircraft. The objective is to assist private and public industry leaders in understanding those attributes necessary for achieving imperatives—operational mission and business needs. The ultimate goal is to keep the military functioning effectively to promote peace throughout a global arena.

The present study used basic interview questions tailored after a case study designed for collaborative or transitioned organization assessment (Pascale & Sternin, 2005). This study provided fundamental observations related to strengths, norms and expectations, activities and events, stories and rituals, and willingness for the organization to change to a collaborative PBL environment. According to the Pascale and Sternin study, defining leadership attributes and organizational culture to create value is important to customers and will assist contractors in the development of solutions while focusing on anticipated needs. The Pascale and Sternin study also indicates that both customers and contractors share vision, mission, and goals related to the use of products and services. The results of this study provide private industry leaders the opportunity to utilize findings and enhance existing business models to further

competitive advantage. Leaders can determine if adjustments in their respective organizations are necessary to create a culture of customer satisfaction.

The present study summarizes findings and suggests directions for future research to successfully implement organizational culture behavior in a PBL environment. The limited literature available in both USG (public) and private industry in this area of interest makes this research study relevant, timely, and valuable.

Research Questions

This research attempted to answer three main research questions:

1. What are the attributes necessary for leading in a performance-based business environment?
2. What impact do leadership attributes have on organizational development in an integrated product team culture?
3. How does organizational culture influence performance outcomes in a performance-based business environment?

Definition of Terms

The following definitions and terms are used throughout this study:

- Behavior: Actions by members in an organization that can affect culture, whether explicit or implicit, which guide perceptions, assumptions, and expectations.
- Benefits: Favorable outcomes offered to public or private industry in a business environment.
- Bias: Distortion or unreliability in survey results. All surveys contain some bias. Bias is increased when the respondents (persons answering the survey) are not representative of the population being questioned, when questions are poorly

written or misunderstood, and when the researcher uses inappropriate techniques to analyze the data.

- Business model: organized structure identifying responsibility, authority, and accountability.
- Collaboration: Two or more parties working together to achieve a common set of goals and objectives.
- Contractors: Private industry performing transactional or performance-based services for another organization (in the case of this study, for the USG).
- Culture (of an organization): An organization's culture can be characterized as rigid, friendly, warm, innovative, or conservative. These traits in turn can be used to predict attitudes and behaviors of people within these organizations. Culture affects the pattern of beliefs and expectations shared by organizational members. In a performance-based organization, beliefs may differ until aligned.
- Collaboration: The act of working together with one or more people in order to achieve something of significance such as a ensuring aircraft are always ready to perform the intended mission.
- Competition: From a PBL perspective, competition provides major incentives to industry and government organizations to innovate, reduce cost, and increase quality. All of the DOD components are expected to acquire systems, subsystems, equipment, supplies, and services in accordance with the statutory requirements for competition.

- Customer: Entity that is accountable for and communicates the needs, requirements, and the associated funding negotiation for providing material, services, or information for consumers.
- Emotional intelligence: The ability to identify, assess, and control the emotions of oneself, of others, and of groups. Various models and definitions have been proposed of which the ability and trait EI models are the most widely accepted in the social science literature.
- Integrated product team: Collaborative relationship between customers, contractors, and service providers, which is paramount to integration and optimization of the total delivery system for a product or service.
- Knowledge management: An approach to improving organizational outcomes and organizational learning by introducing into an organization a range of specific processes and practices for identifying and capturing knowledge and skill expertise and other intellectual capital, and for making such knowledge assets available for transfer and reuse across the organization.
- Leadership style: A perspective and pattern of behavior by persons in authority that has a direct and unique impact on the working atmosphere of a company, division, or team, and in turn, on its financial performance.
- Logistics: In the context of this case study of a segment of the aerospace industry, this term refers to managing the supply chain and controlling the flow of goods, information. It involves direction of resources such as energy and people between the point of origin and the point of consumption in order to meet customers' requirements.

- Organic: Used by USG to identify work performed by public industry versus contracted with private business.
- Organization: Formalization of a group of people with a set of goals and objectives.
- Performance-based agreements: In the context of this study, this term refers to written agreements between the DoD component source of supply and the customer that describes measurable service and performance-level parameters based on customer requirements and expectations.
- Performance-based contracting: The contractually binding vehicle for PBL with formally established product and service delivery requirements, measurement of performance utilizing metrics, and identification of incentives and disincentives for private industry.
- Performance-based life cycle support: Same as performance-based logistics.
- Performance-based logistics: Berkowitz et al. (2009) developed a comprehensive definition of PBL:

  > An integrated acquisition and sustainment strategy for enhancing weapon system capability and readiness where the contractual mechanisms will include long-term relationships and appropriately structured incentives with service providers, both organic and non-organic to support the end user's [warfighters] objectives. (p. 260)

- Performance-based outcomes: Specific metrics and performance criteria compared with actual data compiled for desired state.

- Policy: Written documentation guiding actions in formal relationships and describing development of agreements or contracts between two parties.
- Population: The universe or collection of all elements (persons, business, etc.) being described or measured by a study.
- Private industry: Non-public and for-profit sectors of aerospace. For the purpose of this study, the largest corporate providers to U.S. government include Boeing, Lockheed Martin, Northrop Grumman, and Raytheon.
- Public law: For the purpose of this study, public law is referred to as a set of legislation or policy-guiding actions directed toward private industry for the actions leading to best interests of tax payers.
- Questionnaire: A measuring device used to query a population or sample in order to obtain information for analysis.
- Regulations: Requirements and constraints of business outliers mandated by the USG for DOD contracts.
- Respondent: An element or member of the population selected to be sampled.
- Response items: The various answer choices provided on a survey instrument.
- Source of supply: For the purpose of this study, this term refers to the entity ultimately responsible for providing overall customer support and that ensures the level of support documented in the performance-based agreement is satisfied.
- Statistics: Descriptive measures based upon a probability sample.
- System: A pattern of operation and products designed to perform a function. Military aircraft are considered a weapon system with a function of delivering people, cargo, or bombs to target. As a topic of the present study, the acquisition

of products and services of post-delivered aircraft and other complex systems is required to maintain optimum performance of design-related systems operation related to life cycle sustainment services.

- Sub-system: The sum of sub-systems makes up a system. The components of propulsion, landing gear, and navigation are sub-systems combined to make up an aircraft system.
- Transactional leadership: Uses a "carrot and stick" approach to management, basing outcomes on delivering results that derive from their specific requirements.
- Transformational leadership: Provides the members of organizations with greater communication about expectations and couples the identities of the followers to the collective identity of the organization.
- Value: Used in several ways to indicate an enhancement to a product or an entity. Can be balance between performance, cost, risk, quality and time. Any combination of these can create a subjective perception of value for a customer.

Chapter 2: Literature Review

Life cycle systems sustainment (LCSS) is the evolution and overarching process of maintaining high technology systems, such as military aircraft, which begins with requirements planning, evolves all the way through system design and development, production, introduction to service, operational life, and ends with disposal of the system. A military aircraft is often referred to as a weapon system comprised of multiple sub-systems, structures, and components. Performance-based logistics (PBL) is an acquisition strategy for these high technology systems. According to Vitasek and Geary (2008), well-executed PBL agreements assess product support costs throughout the life cycle of a system and focus energy on the necessary outputs, providing both effectiveness and efficiency for the life of the program.

Based on the professional experience of this researcher, there is an interest to pursue this topic for empirical research and share findings with other professionals in academic and business environments. A mixed methodology business case study that included qualitative and quantitative inquiry was used for the present study. According to research conducted by Creswell (1994), literature cited in a study shares with the audience the results of other studies that are closely related to the study being reported. It also relates a study to the larger, ongoing dialogue in the literature about a topic, filling in gaps and extending prior studies. Many researchers focus on either qualitative or quantitative studies. Qualitative studies are usually exploratory when not much has been written about the topic or population being studied, according to Creswell (1994). The researcher focused on a population of executive leaders of an organization responsible for the execution of a PBL and how those leaders influenced behavior driving performance

outcomes. Quantitative studies include a substantial amount of literature to provide direction for the research questions. Literature is often used to introduce a problem in the introduction and typically is advanced as a basis for comparing with results to be found in the study (p. 22). A review of literature was necessary as this researcher sought answers to three questions:

1. What are the attributes necessary for leading in a performance-based business environment?
2. What impact does leadership attributes have on organizational development in an integrated product team culture?
3. How does organizational culture influence performance outcomes in a performance-based business environment?

A review of literature included internet searches of USG portals, dissertation databases of colleges and universities, business portals where information is available to the public, professional and academic publications, and data derived from experts at various aerospace conferences throughout the nation.

The review of literature focused on the United States Air Force (USAF) acquisition of LCSS for large-scale weapon systems and on the benefits of performance-based concepts used by the USG and private aerospace industry to sustain the thousands of aircraft in the USAF inventory. The review included examining research of other subject matter experts in performance-based contracting to determine what is working well and what are the major issues and concerns with this method of contracting for LCSS. This researcher sought to understand the effects performance-based contracting have on organizational culture of those private contractors providing products and

services in a performance-based business environment. The literature review explored leadership attributes and styles to support research associated with determining what attributes and styles are effective in merging two organizations required to be successful in a collaborative performance-based business environment.

Performance-Based Logistics (PBL)

PBL acquisition strategy. PBL evolved from performance-based service contracting, which has been used in both the public and private sectors. PBL brings sustainment for the life cycle of aircraft to the forefront of the initial acquisition of the aircraft or weapon system and what Berkowitz et al. (2009) calls secondary concerns, including sustainment of the system, technology transfer, and the development of an industrial base to support the system long term. According to research by Berkowitz et al., "the environment for government acquisition creates consequences for major programs that span years, if not decades" (p. 255). The Federal Acquisition Regulation (FAR) defines performance-based contracting as structuring all aspects of an acquisition around the purpose of the work to be performed. The FAR further defines the statement of work for a performance-based acquisition as describing the required results in clear, specific, and objective terms with measurable outcomes (U.S. General Services Administration, n.d., Subpart 2.101). *PBL* and related terms will most likely change over the next few years with the focus on life cycle systems sustainment. The name itself at times creates barriers but, regardless of the name, PBL is a process that enables optimized system availability for its intended use.

The PBL concept is being implemented to varying degrees by all military services as a strategy to reduce or improve cost while continually improving performance.

According to Berkowitz et al. (2009), PBL integration replaces the practice of attempting to define specific methods of operation by describing desired results and uses incentives to ensure success. That being said, PBL is the DOD preferred approach for product support for all DOD systems. According to Ott (2010), PBLs have demonstrated success in part because they encourage partners to apply their specific knowledge and common practices to add value. Ott states, "In cases where that value added produces benefits greater than any nominal pass through costs, we are certainly going to factor that into the total value proposition" (p. 77). The process includes the purchase of support as an integrated, affordable performance package designed to optimize system readiness. This simply implies that the system or aircraft is ready when and where it is needed to perform the mission. Berkowitz et al. developed a comprehensive definition of PBL:

> An integrated acquisition and sustainment strategy for enhancing weapon system capability and readiness where the contractual mechanisms will include long-term relationships and appropriately structured incentives with service providers, both organic and non-organic to support the end user's objectives. (p. 260)

This definition aligns with guidance on implementing a life cycle management framework that focuses on life cycle metrics, aligning resources and readiness, and implementing performance-based product support (Young, 2008).

A PBL contract arrangement and framework is intended to meet performance goals for a weapon system through long term support arrangements with clear lines of authority and responsibility. These long term arrangements incentivize private contractors to execute program performance objectives and minimize costly efforts dealing with an annual or competitive bid cycles. Therefore, a PBL is designed to (a)

allow the representative acquisition customer to flow down requirements and negotiate the right sustainment solution with public or private industry and (b) align products and services to performance-based agreements that are imperative to meet the operational needs of the warfighter. In their study, Berkowitz et al. (2009) state, "defining the right PBL metrics is difficult for both customers and contractors . . . it becomes increasingly difficult to continue to gain higher levels of performance" (p. 263)

A PBL introduces a unique working relationship between public (military branches of service) and private (commercial contractors) sectors that is focused on the acquisition of the system, sub-system, and component sustainment services. In the wake of global-warming threats, oil spills, population growth, wars, and economic crisis, few words have been bandied about more than sustainability (Azambuja, 2010).

President Obama signed into law the Weapon Systems Acquisition Reform Act of 2009 introducing a *product support business model* (PSBM) that establishes a hierarchy focusing on maximizing capabilities for the operational user of the aircraft. According to Kratz and Buckingham (2010), "our current national security posture and budget realities dictate that DoD and industry continue to explore and refine new acquisition and sustainment processes to enable greater agility and capability at reduced costs" (p. 47).

To enable a PBL, the USAF documents performance objectives based on anticipated world events and define corresponding support necessary to meet a specific level of performance that determines readiness requirements. To accomplish this, a well-formed *integrated product team* (IPT) is established to develop collaborative processes and execute requirements. The documentation of requirements, both performance and support, is accomplished in the performance agreement between the end user and the

USAF program manager and ultimately establishes a contractual bond between the customer and industry. The Government Accounting Office (n.d.) states the following:

> PBL is a method of providing support for weapon systems by designating what system performance is required, such as a given level of system availability, and placing the responsibility for how it is accomplished on the support provider, which manages resources to achieve performance objectives. (pp. 7-8)

Value of performance-based logistics. An examination of various publications reveal that what is imperative for all weapon systems, such as a military aircraft, is that there is readiness and capability to fulfill a mission either on the battle field or to fly relief missions to hurricane or earthquake ravaged countries all around the globe. Commanders responsible for answering the call from top decision makers cherish aircraft availability because it enables them to get to the fight against terror in time to deter aggression or to deliver food and medical supplies in time, ultimately saving lives. This is commonly referred to as "keeping the pointy end of the spear pointy" by the men and women who fly and maintain these weapon systems and depend on them to complete their mission. They are the warfighters who depend on both the USAF acquisition community and industry providers of products and services to buy and have available the equipment to meet real world requirements of a mission, ranging from delivery of people and equipment globally or responding to a natural disaster and relief mission. There is a need to be safe, reliable, and mission capable. Keeping these warfighters mission capable is vital to national security in the United States and its interests around the world. PBL is a process that enables support requirements needed to sustain a fleet of airplanes anywhere in the world, any time of day, every day, by public and private organizations.

Performance-based practices. Ausink et al. (2002) conducted a study for RAND, a nonprofit institution that helps improve policy and decision-making through research and analysis. Ausink et al. reported that according to FAR Part 37.6 (AFI 63-124 implements), performance-based contracts must satisfy four criteria: (a) requirements must reflect what the purchaser or user of the service needs; (b) there should be measureable performance standards (quality, timeliness, etc.) and performance thresholds so that the purchaser can track performance against clear goals; (c) the contract should contain provisions to reduce the fee or the cost of a fixed-price contract if services do not meet the purchaser's specified needs; and (d) the contract should contain performance incentives, such as award fees or award-term contracts, when appropriate.

Although the researchers did not specify the exact number of participants in the study, of those interviewed, most seemed convinced that using performance-based requirements is beneficial. However, several participants in the study noted that many services should not be purchased using so-called pure performance-based requirements. Environmental management services were cited as an example. The USAF cannot transfer its legal responsibility to the contractor; it must have a greater degree of control over how the services are provided to ensure compliance with federal regulations (Ausink et al., 2002). The following sections explore the environment affecting the USAF customer and private industry, the issues faced, and the impact on organizational culture.

United States Air Force employment of performance-based contracting. The USAF is employing PBLs at system, sub-system, and component level performance-based arrangements with aerospace contractors. The U.S. Government Accounting Office (GAO), when performing business case analysis (BCA) studies to determine what

is the best value for U.S. taxpayers, aims to balance mission performance against key factors such as cost. Some studies indicate that the jury is still out on full recognition of the optimum cost effectiveness of PBLs for various reasons. A Government Accounting Office (2008) study concluded that the following:

> Several characteristics of DOD's PBL arrangements may limit their potential to reduce costs. First, DOD's PBL contracts are limited to relatively short time periods, while proponents of the PBL concept believe that longer-term PBL arrangements are necessary to encourage support providers to make investments to improve reliability. Second, in DOD—where changing requirements and priorities can result in fluctuations in the funding for support of DOD's weapon systems—creating a stable level of funding is challenging. Third, many PBL arrangements only transfer responsibility for inventory management to the contractor and do not transfer inventory ownership, which reduces incentives for ensuring a correctly sized inventory level. Finally, many of DOD's PBL arrangements do not contain cost metrics or offer specific incentives to encourage cost reduction initiatives. (p. 41)

There are a number of considerations to take into account, and criteria will need to be developed to determine the precise recipe for success in establishing the best practices for PBL and alignment to cost initiatives. That is not the purpose of this study, but without developing this formula, it will be difficult to prove that cost benefits will materialize, especially at the system and sub-system levels and in terms of alignment with other defined key PBL attributes.

Studies make clear that the performance outcomes critical to the men and women who fly and maintain the aircraft are proven (Vitasek & Geary, 2008) and measured, through meaningful performance metrics to ensure the parts, data, and support are available when and where needed to return aircraft to service, resulting in a aircraft system that is mission capable. This means less risk to commanders who make critical decisions and who need the confidence that aircraft will be available to deploy for their intended use. The Federal Acquisition Regulation has established a policy requiring agencies to use performance-based contracting methods to the maximum extent practicable for the acquisition of services (U.S. General Services Administration, n.d.), with certain exceptions, according to the Federal Acquisition Regulation Subpart 37.102(a), implementing section 821 of the Floyd D. Spence Defense Authorization Act for Fiscal Year 2001 (Pub. L. No. 106-398). The Federal Acquisition Regulation addresses performance-based contracting generally at Subpart 37.6.

The USAF is under pressure to find a balance between the potential benefits of a PBL and maintaining responsibility, authority, and accountability for the weapon system and the associated support structure. Defense Acquisition University (DAU) teaches prospective acquisition and program management leaders that using performance-based service contracts is intended to offer a number of potential benefits, such as encouraging contractors to be innovative and to find cost-effective ways of delivering services for a fixed level of funding. The curriculum and case studies available at the DAU website (http://www.dau.edu.gov) reflect a shifting of focus by acquisition customers from process to results, inferring that these contracts can potentially produce better outcomes and reduced costs. Students' expectations are now becoming more focused on these

benefits as they move up the ranks and become the leaders of tomorrow. More studies will have to provide compelling evidence that the agencies participating in PBLs achieve reduced contract prices and improved customer satisfaction with contractor performance after introducing performance-based contracting.

Aerospace industry alignment. A review of literature reveals that to define LCSS strategies and the overarching benefits of performance-based environments in DoD and its implications on the USAF, it is evident that contractors in the aerospace industry must become fully aware of (a) how the USAF is employing performance-based contracting, as well as (b) the issues they are facing (Ausink et al., 2002; Berkowitz et al., 2009; Vitasek & Geary, 2008). The USAF must then determine what is and is not working. There are five considerations for aerospace contractors as they become and remain competitive:

1. Align with DOD policy and public law. This drives decisions and challenges faced not only by the USAF but by all military services and the aerospace industry.
2. Perform in an environment that focuses on outcomes, not transactions and events. Contractors must understand what the customer is aiming to achieve and make sure they have the knowledge and capability to meet or exceed measurable expectations defined in performance-based agreements.
3. Establish and execute program objectives in a collaborative environment. Outcome assurance, driven by culture of the organization, is inspired by leadership setting the tone for in a collaborative environment. Everything related

to outcomes is driven by people. Introduction of integrated product teams (IPTs) to establish a collaborative culture could be a key enabler.

4. Provide value. Demonstrate that the products and services that are provided balance proven performance, cost benefits, risk reduction, and a level of flexibility that can adjust to the uncertainties of world events faced by military services.
5. Demonstrate continuous improvement. Balance people, processes, and tools needed to provide the products and services better, faster, and focused on cost reduction. This is an area whereby the contractor will be incentivized to reach higher levels of performance outcomes through investment in their most valuable resources—people, capital, technology, etc.—as the system and program matures.

Meeting performance outcomes and needs of the USAF customer is imperative to the United States and critical to the success of private industry in meeting business goals and shareholder value. An important question is this: Which leadership attributes are essential in a performance-based business environment to meet the goals and objectives provided by the outcomes expected and to provide the fleet readiness outcome needed by the war fighter? Leadership attributes are the focus of this study and leadership styles are a consideration in an effort to seek successful leaders that have implemented a PBL program.

Leadership Styles

Goleman, co-chairman of the Consortium for Research on Emotional Intelligence in Organizations, examined six leadership styles used by more than 20,000 executives worldwide. Previous research was conducted by a consulting firm, Hay/McBer, based on

a random sampling of 3,871 of the 20,000 executives over a 10-year period prior to year 2000. Styles were based on different components of emotional intelligence. According to research findings, each style appeared to have a direct and unique impact on the working atmosphere of a company, division, or team, and in turn, on its financial performance. The research also indicated that leaders with the best results do not rely on only one leadership style. Instead they use most of them in a given period, and in different measure, depending on the business situation (Goleman, 2000).

The six styles of leadership that Goleman's (2000) team examined in further detail were: (a) coercive—demands immediate compliance, (b) authoritative—mobilizes people toward a vision, (c) affiliative—creates emotional bonds and harmony, (d) democratic—builds consensus through participation, (e) pacesetting—expects excellence and self-direction, and (f) coaching—develops people for the future. Goleman reported that four of the six leadership styles are used more consistently and have a positive effect on climate and results. Climate refers to six key factors that influence an organization's working environment: (a) its flexibility (employees' freedom to innovate), (b) employees' sense of responsibility to the organization, (c) the level of standards that people set, (d) the sense of accuracy about performance feedback and aptness of rewards, (e) the clarity people have about mission and values, (f) and the level of commitment to a common purpose.

Goleman (2000) further examined the six styles of leadership to determine in which situations they were most effective. Coercive styles work best when there is a need to change the direction of a company that is losing money or a hostile takeover is looming. Like the coercive style, the pacesetting style should be used sparingly. The

pacesetting leader sets extremely high performance standards and exemplifies them. Poor performers are quickly pinpointed and replaced when they fail to meet challenges. This style can destroy morale, causing employees to feel overwhelmed by the pacesetter's demands for excellence. This approach works well when all employees are self-motivated, highly competent, and need little direction or coordination.

The authoritative style works well in almost any business situation. According to Goleman (2000), an authoritative leader charts a new course and sells people on a fresh long-term vision. The affiliative style revolves around people. Individuals and their emotions are valued more than tasks and goals. Flexibility is at the forefront of this approach. Affiliative leaders are very good at building a sense of belonging. This style is very effective for repairing broken trust in organizations.

A democratic leader spends time getting people's ideas and buy-in as well as building trust, respect, and commitment. Workers are allowed to participate in decisions that affect their goals and how they do their work. The democratic leader drives up flexibility and responsibility, according to Goleman's (2000) research findings. The democratic style has drawbacks. There could be endless meetings where ideas are mulled over and consensus remains elusive with no visible results. The democratic approach is best used when the leader is uncertain about the best direction and needs ideas and guidance from competent employees.

Goleman (2000) reported that coaching leaders help employees identify their unique strengths and weaknesses and tie them to their personal and career aspirations. This leadership style encourages employees to establish long-term developmental goals and help them conceptualize a plan for attaining them. Coaching leaders excel at

delegating and are willing to tolerate short term failure if it furthers long-term learning. Research reveals that the coaching style was used least often in comparison to the other five styles of leadership. Many leaders revealed that they do not take the time to coach due to high demands and tedious work of teaching people and helping them grow.

Goleman's (2000) research further reveals that leaders who mastered four or more—especially the authoritative, democratic, affiliative, and coaching styles—have the very best climate and business performance. Furthermore, the most effective leaders switch flexibly among the leadership styles as needed. Research indicates that no style should be relied on exclusively, and all have at least short-term uses.

Bennis and Thomas (2002), known for their research, books, and articles, are lifelong students of leadership. Bennis and Thomas shared findings on what they termed *crucibles of leadership* as they took on the notion of what makes a leader. They probed the question, "why is it that certain people seem to naturally inspire confidence, loyalty, and hard work, while others (who may have just as much vision and smarts) stumble, again and again?" (p. 28). Research led them to believe it has something to do with the different ways that people deal with adversity. Bennis and Thomas concluded that one of the most reliable indicators and predictors of true leadership is an individual's ability to find meaning in negative events and to learn from even the most trying situations. In interviewing more than 40 leaders—young and old—in business and the public sector over a period of 3 years, Bennis and Thomas discovered all of them were able to point to intense, often traumatic, always unplanned experiences that had transformed them and had become the sources of their distinctive leadership abilities. Thus, the experiences were called crucibles, meaning trials and tests that forced individuals to question who

they were and what mattered to them. Their examination of values, questioning of assumptions, and honing of judgment led to an emergence of strength and purpose and some kind of fundamental change.

Bennis and Thomas (2002) advocate that great leaders possess four essential skills: (a) the ability to engage others in shared meaning, (b) a distinctive and compelling voice (the ability to defuse a potentially violent situation with words), (c) a sense of integrity (strong set of values), and (d) adaptive capacity. This is applied creativity, the ability to transcend adversity, with all its attendant stresses, and to emerge stronger than before. According to Bennis and Thomas, the attributes of hardiness and ability to grasp context allow leaders to grow from their crucibles, instead of being destroyed by them.

An advocate of emotional intelligence, Goleman (2004) led another research effort to examine the relationship between emotional intelligence and effective performance, especially in leaders. Five components were examined: (a) self awareness, (b) self-regulation, (c) motivation, (d) empathy, and (e) social skill. The purpose was to determine (a) which personal capabilities drive outstanding performance in organizations and (b) to what degree this occurs. Capabilities were grouped in three categories: purely technical skills, cognitive abilities, and competencies. Goleman's analysis revealed that emotional intelligence played an increasingly important role at the highest levels of companies, where differences in technical skills are of negligible importance. In essence, the higher a person's rank, the more emotional intelligence capabilities showed up as the reason for his or her effectiveness.

In examining the five components of emotional intelligence, Goleman (2004) found that people with strong self-awareness are neither overly critical nor unrealistically

hopeful. They are honest—with themselves and with others. He or she is in touch with and understands his or her own values and goals. Goleman stated that senior executives do not often give self-awareness the credit it deserves when they look for potential leaders. Goleman describes a perception of wimpiness related to those who are honest, when the fact is that people generally admire and respect candor.

Self-regulation, an ongoing inner conversation, according to Goleman (2004), causes people to manage their feelings, bad moods, and emotional impulses. Leaders that are perceived as reasonable are able to create an environment of trust and fairness. Thus, politics and infighting are sharply reduced and productivity is high. When leaders possess the ability to self-regulate, they have a greater propensity for reflection and thoughtfulness, comfort with ambiguity and change, and integrity. They have an ability to say no to impulsive urges.

The research revealed that all effective leaders have the motivation trait; they are usually driven beyond expectations. According to Goleman (2004), these leaders possess passion for their work, seeking out creative challenges, loving to learn, and taking great pride in a job well done. People with high motivation remain optimistic even when the deck is stacked against them, and they remain committed to the organization. Optimism and organizational commitment are fundamental to leadership.

Goleman (2004) reported that empathy is the most easily recognized of the emotional intelligence components. For leaders, empathy means thoughtfully considering employees' feelings while in the process of making intelligent decisions. Empathy is especially important in companies where there is increasing use of teams, a rapid pace of globalization, and the growing need to retain talent. For globalization,

cross-cultural dialogue can easily lead to miscues and misunderstandings. Effective leaders are expected to understand cultural and ethnic differences because when good people leave a company, they take the company's knowledge with them.

Like empathy, social skill concerns a person's ability to manage relationships with others. Goleman (2004) found that social skills are necessary to move people in the direction of a desired strategy or enthusiasm about a new product. Social skills are the culmination of self-awareness, self-regulation, empathy, and motivation. Socially skilled people are adept at managing teams. They are usually expert persuaders. People recognize that leaders need to manage relationships effectively. Consequently, the leader's task is to get work done through other people, and social skills make that possible.

Leadership Attributes

Ulrich, Zenger, and Smallwood (2008) described a study where 312 respondents were requested to rate the most pressing people issues faced in their company. Over 70% of the respondents stated that leadership was extremely important. Ulrich et al. (2008) summarized findings in a formula: Effective leadership = attributes x results. It suggests that leaders must strive for excellence in both terms; they must demonstrate attributes and achieve results. Each term of the equation multiplies with the other; they are not cumulative. In essence, a low score in either attributes or results indicates considerably less effectiveness. Under Ulrich et al.'s (2008) rubric of leadership attributes falls a large array of sometimes confusing and often overlapping terms, including habits, traits, competencies, behaviors, style, motives, values, skills, and character. These leadership attributes were grouped into three broad categories: who leaders *are* (values, motives,

personal traits, character); what leaders *know* (skills, abilities, traits); and what leaders *do* (behaviors, habits, styles, competencies). The *are-know-do* approach to leadership has received enormous attention and investment in the ongoing attempt to upgrade leaders.

Research reveals that many companies have developed more refined and rigorous ways to identify leadership attributes. For instance, General Electric (GE) provides a good example of a company that makes the most of the attribute model for building and deploying better leaders. GE focuses on the concept of competencies (bundles of leadership behaviors) to improve leaders and has become renowned for its excellence at developing industry leaders (Ulrich et al., 2008). GE's approach is based on four essential tasks: (a) senior managers strongly commit to doing what is needed to build the next generation of leadership; (b) a 30-year-old succession planning system guides a large number of firm leaders in their professional development—top executives participate in numerous activities aimed at improving abilities and increasing career opportunities—aligning both to corporate strategy; (c) leadership attributes are defined behaviorally for future leaders; and (d) leadership competencies, as stipulated in the company's Leadership Effectiveness Survey (LES), are used to integrate a number of management practices with the purpose of building quality of leadership.

In their work, Ulrich et al. (2008) identified what leaders need to be, known, and do to succeed. Key elements of leadership attributes were introduced and summarized to model those attributes and actions that are needed to successfully lead an organization: set direction (vision, customers, future); demonstrate personal character (habits, integrity, trust, analytical thinking); mobilize individual commitment (engage others, share power); and engender organizational capability (build teams, manage change). Overall, Ulrich et

al. concluded that through improved leadership attribute models, leaders gain both the broad qualities shared by all leaders and the particular skills needed to meet the leadership challenges presented by positions at any level and in any function, industry, or location. Ulrich et al. advocated that while some skills can be taught, while others can only be experienced. Some behaviors and attitudes may be learned, while others may only be innately part of the leader's persona. Training often enhances an attribute enough to provide a compensatory balance for the leader's background.

Concerns of Leadership Attribute Models

Ulrich et al. (2008) found that some firms and leaders continue to fall prey to six attribute pitfalls. For instance, some high performers may become moderate or low performers in the future when the work world changes quickly and half-life of knowledge grows even shorter in most professions, requiring even high performers to unlearn what they know and do. Companies are encouraged to focus on the future by anticipating desired attributes rather than relying on past or present attributes. Companies are encouraged to reflect unique challenges in leadership attribute models rather than resembling other companies' models. Firms are encouraged to focus on behavior-based attribute models rather than theory-based models. Concept-based models describe attributes generically and prove to be useful and measurable only when turned into specific behaviors.

Ulrich et al. (2008) advocate that attribute models created by human resources have less impact than line-created and line-owned models. Leaders, managers, and employees usually all relate and commit more to models that bear the stamp of authentic experience. Heavily involving line managers in crafting attribute models increases their

commitment to them. Ulrich et al. further advocate that leadership attribute models need to be used, not just created. Companies are encouraged to require that leadership attributes become the basis for staffing, training, and compensation decisions. Ulrich et al. further advocate that leadership attribute models define qualities of all leaders at any level, not just top leaders. Good leadership models must take into account the kinds of skills and qualities necessary for leaders throughout the organization.

Ulrich et al.'s (2008) strongest argument is that leadership attributes should be tied to results. A leader's job requires character, knowledge, and action and should demand results. This means explicitly focusing on desired results and linking specific attributes to those results. Ulrich et al. concluded that attention to leadership results will repay its costs in time and effort many times over in raising the overall quality and effectiveness of a company's leaders. Such attention will also refine and refocus leadership attributes in ways that ensure that they deliver value. In summary, Ulrich et al. believe results-based leaders must continually ask and answer the question of what is wanted, before deciding how to do it. Results-based leaders should define their roles in terms of practical action. Furthermore, results-based leaders' impact on organizational culture depends on their effectiveness by measuring achievements against goals.

Organization Culture

A performance-based business environment is not the same as a traditional contractor and government relationship that is transactional in nature. In their study, Berkowitz et al. (2009) revealed that a move to PBL requires several infrastructure changes. They stated there is a need to change the culture of the implementing organization. This is the recurring theme throughout their PBL research; people need

to be motivated to meet or exceed commitments. In reality, PBL is a culture that must adopt the end customer mission by focusing on the direct contribution to fleet readiness. The researcher found no literature that states this, but the very nature of the term *culture* and the definition of PBL imply this, since everything must be accomplished by people. Just as individuals have personalities, so too do organizations. Organizations, like people, can be characterized as, for example, rigid, friendly, warm, innovative, or conservative. These traits in turn can be used to predict attitudes and behaviors of people within these organizations (Robbins, 2005). Determining the strength of an organization can and should be measured through the relative strength of the individuals who make up the teams, who in turn make up the organization.

According to Schein (1992), the strength and stability of culture derives from the fact that it is group-based; the individual will hold on to certain basic assumptions in order to ratify his or her membership in the group. Organization culture is therefore made up of the attitudes each individual holds and collectively is viewed by those within and outside an organization. Schein details the stages of group evolution, which includes group formation, group building, group work, and group maturity as building blocks of an organization. This group formation is essential in early stages of PBL, and should become tribal knowledge management in a joint IPT environment so the organization will not fail.

Integrated Product Team (IPT) Concept

The performance-based business environment requires a collaborative relationship between customers, contractors, and service providers, which is paramount

to integration and optimization of the total aircraft system. An enabler for a collaborative relationship is the use of IPTs.

The DoD Integrated Product and Process Development Handbook describe an IPT as a multidisciplinary group of people who are collectively responsible for delivering a defined product or process (Department of Defense, n.d.). The IPT concept is a collaborative effort between all stakeholders of a program to clearly define system requirements early in a systems life cycle and acquire the competencies needed to execute a program and performance needed to deliver desired outcomes. It offers an opportunity for the customer to establish a partnership and work together with its suppliers of products and services to balance needs, requirements, cost, schedule, and performance. This is critical considering the challenges and demands placed upon the services to expedite procurements with limited people, money, and time. A significant amount of research has been done on team structure. A good place to start is with the organizational chart. An organizational chart in an IPT environment is aligned with the performance work structure of a contract. According to Prasad and Akhilesh (2002), the organizational chart conveys important information about hierarchy and span of control and forms a context that supports the strategic goals of the organization. The role of the IPT can be defined within the organization in the same way any local functional team would be incorporated into an organizational structure. The difference is, the customer and contractor are aligned and best positioned for acquiring, executing, and meeting commitments of the contract together. Beyond the organizational chart, a process is in place to address the contextual aspects, process aspects, and people aspects of the organization.

Integrated product team challenges. There are people, process, budgetary, and geographical challenges, to name some, in an integrated product team (IPT) environment. For the purposes of this study, only those that effect collaborative organization culture and the effects on that culture were addressed. According to research, overall performance management in the IPT environment is effective and requires building trust, like any other high performance work team.

Successful traditional teams go through a process of storming, norming, and performing (Oertig & Buergi, 2006). All teams have a goal of becoming a performing team. Even IPTs can get bogged down in a cycle of storming and norming, never reaching the performing level. This problem is exacerbated in an IPT environment wherein organizations are not fully aligned. Researchers have offered various solutions to the problem of building high performing teams. For example, Oertig and Buergi recommend developing trust within the team by running formal team building sessions with the goal of developing trust through face-to-face contact. They recommend spending at least 2 days together to move the team dynamic along more quickly. Interviewers estimated that it would take 3 to 9 months for a team to build a solid trust and comfort level. One issue is that the average person in the military moves from job to job every 24 months. Thus the IPT environment in the aerospace industry is dynamic and effective only to the degree that the contractor and government civil servant employees maintain a level of continuity to keep the program stable.

Performance-Based Culture

A performance-based organization culture aligns with the IPT collaborative relationship and must contend with the challenges described earlier in this literature

review. The culture of the organization and its people is to consider (a) the end item customer as people and (b) what they need to accomplish their designated mission through the use of the product they build or the services they provide. Performance-based culture puts the employees of a contractor "in the boots" of the men and women who fly and maintain the airplanes they build and support 24 hours a day, 7 days a week.

In a performance-based environment, the behavior of each contractor and government counterpart is one of a teammate. Each action is focused on achieving performance outcomes that collectively roll up to mission effectiveness measured by key performance parameters and mission success. Actions toward a common vision, mission, and goals are repeated, become a habit, and eventually become part of the organization's culture as stories are told of the successes of supporting customers while contributing to shareholder value. Even the failures are worked on until they become success stories through proactive behavior. In defining PBL earlier in this study, it was identified that to enable a PBL, the USAF documents performance objectives based on anticipated world events and defines corresponding support necessary to meet a specific level of performance that determines readiness requirements. This action establishes PBL as a formal, disciplined, and quantified arrangement that delineates the anticipated level of support required. This is what the organization focuses on. Simply, the mindset is that it is not enough to satisfy requirements; the team must anticipate needs and move forward in planning for success of the fleet, thus operating in a performance-based culture.

The key drivers are creating a culture of managing knowledge focused on achieving performance-based outcomes. Therefore, knowledge management is a key enabler in the IPT's success. The contractors, as the original equipment manufacturers of

the products, should offer continuity in the quality of information provided to the customer. This is important since there is turnover in military personnel every 24 to 36 months, creating a constant need for information.

Measuring Performance of the Team

Research reveals that one of the biggest challenges for organizations is measuring the effectiveness of organizations and integrated product teams. Some researchers have been working to develop instruments for measuring and modeling team performance (Prasad & Akhilesh, 2002). Working in an IPT environment much resembles the challenges of two companies undergoing a merger or acquisition. Schein (1992) notes, "Companies that acquire other companies go through great lengths to evaluate financial strength, market position, management's strength… but rarely review aspects of the company considered cultural" (p. 403). It is imperative that this not be the case for the joint USAF and contractor teams, both before and after the establishment of the performance-based environment.

Managing the integrated product team through transition. The most important element of the IPT is open, honest, and accessible dialogue between the team, executive leadership, and stakeholders. There are requirements for agreement on program plans, work statements, and metrics, which will subsequently be flowed down to the employees. Without this clear mutual understanding of the plan and its metrics, the success of programs and airplanes available for their intended use could be doomed to failure. The transition from a conventional relationship to one of a joint and combined IPT is the foundation of a performance-based environment. For example, valuable time

and resources could be wasted if the IPT was completing tasks that were not part of a measurable plan.

The primary goal is to help people understand that the entire organization should be moving toward a common vision, mission, and goals, which is what will make the IPT and organization move to a common rhythm. It is imperative that each team member realizes that any loss of identity resulting from the IPT evolution will be outweighed by the new beginning it generates. According to Bridges (1991), change will not be effective unless transition occurs, and transition involves helping employees through psychological aspects of leaving the old situation behind. Change is often met with resistance, and it is the responsibility of the organization to navigate the transitional process between the old and new (p. 333).

This issue in a new IPT environment is real and recurring as new team members; specifically USAF personnel come and go through assignments on military programs. Bridges (1991) also notes, "Failure to identify and be prepared for the endings and losses produced by change is the largest problem organizations experience" (p. 4). This researcher believes that constant communication as well as a solid transition plan execution should help resolve this issue, and both of these elements are factored into a plan for successfully navigating the introduction or sustainment of the IPT concept and resultant benefits.

From Bridges' (1991) perspective, the most important component of successful change management is managing the process of transition. Bridges states, "Everyone must understand the transition plan, the metrics, and those things that are important to each and every individual that is affected by the transition" (p. 56). In the case of

aerospace companies and the USAF, change offers these two organizations (a) an opportunity to be better than before, (b) a chance to transition into a new organizational identity that is focused on growth for the employees, and (c) the shared vision, mission, and goals as a whole.

Schein (1992) offers some steps to help leadership merge two cultures and align to the organization vision:

1. Leaders must understand their own culture well enough to be able to detect incompatibilities with the culture of the other organization.
2. Leaders must be able to decipher the other culture and to engage in the types of activities that will reveal each other's assumptions.
3. Leadership must be able to articulate the potential synergies or incompatibilities in such a way that others involved in the decision process can understand and deal with the cultural realities.
4. If the leader is not the decision maker, he or she must be able to convince leadership to take the cultural issues seriously. (p. 412)

The cultural diagnosis of the integrated organization will provide insight and specifically highlight areas of focus for leadership improvement such as more effective communication. From this point forward, the most important component of success seems to be effective leadership with objectivity, insight into organizational culture, and collaborative team environment.

Existing literature on the IPT concept indicates that it may be necessary to establish a checklist for a transition plan that will help the leaders involved in a collaborative environment better understand why performance-based concepts and

implementing them in a collaborative organization is important and what they need to do in planning the necessary steps for establishing and implementing the IPT to achieve desired performance-based outcomes. This requires the right balance of leadership and organizational culture necessary to cope with organizational change for a common vision, mission, and goals required to achieve desired outcomes. The next section describes leadership roles and the cultural changes that IPTs will face as the organization evolves.

Evolution of Leadership Roles, Culture, and Change

Evolution of leadership merging new organizational culture. Mergers of organizations bring with them a need for change. Schein (2004) discusses the issues management tends to focus on when it decides to merge with another company. He goes on to assert the following:

> Rarely checked, however, are those aspects that are considered cultural: the philosophy or style of the company, its technological origins, its structure, and its way of operating, all of which may provide clues as to its basic assumptions about its mission and future. Yet if culture determines and limits strategy, a cultural mismatch in an acquisition or merger is as great a risk as a financial, product, or market mismatch. (p. 222)

Schein is saying that there is a need to establish a new organizational culture: a merger of principles that align with the shared vision of two organizations, socialized and shared with all stakeholders.

Organizational culture is "a pattern of beliefs and expectations shared by organizational members" (Hellriegel, Slocum, & Woodman, 1986, p. 45). The research indicates that shared beliefs and expectations determine the behavior of the members of

the organization. Experience and research indicate that the existing beliefs and expectations of one organization may be inconsistent with the other. Changing organizational culture is further complicated by the fact that people tend to surround themselves with others of like opinions and values, thus reinforcing their common beliefs and expectations (Schein, 1988).

It is imperative that organizations maintain some sense of identity and signature branding, something for everyone to rally behind. According to Bolman and Deal (2003), "Leaders must articulate and communicate their vision so others can learn to shift perspectives when needed" (p. 13). The very nature of shifting perspective, through the evolution of the *neutral zone*, is that organizations may be divided until leadership is successful in their role in establishing new beginnings for all involved. This establishes the role of the executive leader as critical to the organization's future.

The role of the executive leader. This section provides relevant leadership theory and recommendations for application during a merger of two organizations and can be applied to operating in a collaborative performance-based business environment. During an interview with an aerospace industry Executive Vice President, he discussed his role and the role of executives in an aerospace environment. He indicated that their role is to set the tone of the organization. He maintained that it is not enough for executives to establish financial targets and say to the management, "Go and hit that mark" (Aerospace Executive, personal communication, July 10, 2010). According to research findings, it is necessary for effective leaders to establish a vision, establish high standards for performance, and set stretch goals. Leaders must clearly define the

vision, mission, and goals of the organization. In so doing, they provide a direction for the organization, ensuring all employees are headed in the same direction.

As a leader of an organization, it is critical to create a leadership model that provides continuity in the direction leadership is heading. The model should be shared at all levels of the organization. Leadership attributes should be aligned with performance expectations and intertwined with corporate values across the enterprise. Bridges (1991) asserts that transition leadership follows guidelines, although he points out that "the basic difference…is to determine (usually in a collaboration with others) the outcome of the change project and to keep reminding people what the outcome is and why it is important to achieve it" (p. 88). An example of a crucial leadership attribute is transparency, helping people understand what has changed and why. If the transition is done correctly, growth and productivity will prevail within the organization.

A leader must be able to identify specific problematic issues, and even more importantly, must be able to apply specific methods to resolve those issues so the organization will maintain its core purpose, find its way, and help the company grow in order to benefit all stakeholders. Considering an entrepreneurial view, it is critical to recognize the opportunity presented by a collaborative business environment or merger or two organizations and transform the organization to pursue it. Bygrave and Zacharakis (2004) ask the question, "Is the birth of a new enterprise just happenstance and its subsequent success or demise a haphazard process?" (p. 2). They assert that entrepreneurial concepts can be learned and are not just applicable to new businesses, but may also apply within an existing one. Thinking like a start-up entrepreneur can

be an exciting approach to understanding organizational culture. This perspective can offer specific ways of attaining goals versus a haphazard approach, such as not planning for change or transitioning to align to change carefully.

This researcher has observed, over a period of years, that leaders must possess the instinct to know when to act; much can be lost if timing is not considered. Issues cannot be left to fester and opportunities for productivity gains or new business cannot wait. Timing is an important factor to consider throughout the organization's evolution. When explaining their research on reframing organizations, Bolman and Deal (1997) asserted, "Good leadership is situational; what works in one setting may not work in another" (p. 294). The simple message here is that situations involve people, and people have different needs, wants, and ways of thinking. It is essential for a leader to understand what, or who, is around him or her before making a decision. A memorable analogy for this concept is that of a putting green and a golfer who has a grand vision to sink the putt for birdie. A professional does not just walk onto the green, putter in hand, and hit the ball in the direction of the hole. A ball hit in this manner will most likely not find the target, and the golfer will miss the chance for a birdie. The professional, on the other hand, will take time to assess the slope, bumps, and environment around him in order to optimize the chance of success. The same is true when addressing issues in an organization that involves people. Observations of successful leaders made it clear that they expect executive subordinates that are responsible for executing programs to care deeply about everything that surrounds the organization and its most valued asset, people. According to Schein (2004), leaders show their emotional investment through shared experience, "It is the leader who

initiates this process by imposing his or her beliefs, values, and assumptions at the outset" (p. 225). Experience and investment are visible when the leader assumes his or her role in leading and motivating the organization towards achieving its expected goals.

Robbins (2005) outlines a number of basic motivational concepts that are essential for ensuring a successful transition. The expectancy theory is a technique applied to achieve consistent leadership actions appropriate during the merger transition period. Robbins argues that motivation depends on "the strength of an expectation that the act will be followed by a given outcome and on the attractiveness of that outcome to the individual" (p. 60). The concept aligns with what is considered a best practice in the private sector of aerospace.

According to Schein (1992), "Leadership and culture are conceptually intertwined" (p. 273), and as a result the leader influences organizational culture to a great extent. An effective leader will be aware of his or her surroundings, organizational culture, the demographics of the people being led, and the labels and outlooks of the people in the organization. If the leaders of a collaborative business environment can achieve this level of cultural awareness, they will earn the opportunity to shape the organization into a forward-looking and profitable operation. According to Bolman and Deal (2003), "There are many ways to label such outlooks: mental models, maps, mindsets, schema, and cognitive lenses, to name a few" (p. 12). Bolman and Deal chose the label of *frames* to describe an organization, how to navigate through it over time, and identify what managers and leaders may want to convey about that organization's issues and how they might be resolved.

First the executive leader establishes the vision, mission, and goals, providing a direction for all in the organization to follow. Without direction, inefficiencies could lead to failure and loss. Second, the organization does not have a chance if people who can get things done are not on board. The leader is required not only to lead, but also to shape culture within an organization so "they have a sense of purpose that lies behind their vision and goals" (Schein, 1992, p. 142). This understanding should inspire both public and private leaders and their respective organizations as they undergo and successfully navigate change.

In his discussion of group evolution, Schein (1992) identifies group formation, group building, group work, and group maturity as building blocks of an organization. The IPT should be assigned to facilitate the transition and will help leaders understand these concepts so they may apply all their resources to transform the organization into a unified, focused business unit while also considering the organization's evolution.

In addition to culture and behavior, exemplary actions of the executive leader are a critical factor in achieving success. In the researcher's 25 years of aerospace experience he has observed that most managers define good leaders by the way they measure and control an organization, react to critical incidents, effectively allocate resources, role-model, reward, and attract exemplary talent. This definition of a leader is adequate, but a leader with only these qualities will not be able to lead through a major transformation in a collaborative performance-based business environment. A further review of literature also notes the work of Kouzes and Posner (2003), which states that the following attributes, in order of importance, are essential aspects of another style, transformational leadership:

1. Integrity (must be trustworthy: consistent in word, deed, character and conviction)
2. Competence (must be capable, productive, and efficient)
3. Future orientation (must have sense of direction and concern for the future)
4. Inspiration (must be enthusiastic, full of energy, and positive for the future)

The next section describes how these attributes, when combined, form a solid executive leader who understands what is right and how to get it done, has a vision, and understands how to influence people to follow. Especially given the turmoil and uncertainty that are rampant during an organizational merger, followers respond with great enthusiasm and look up to leaders that can demonstrate these crucial attributes.

Transactional and transformational leadership models. Leadership does not happen by accident. During a time of organizational transition, leaders are encouraged to remind themselves that employing different styles of leadership may help to get through challenging times. Beginning in the early 1980s a new leadership paradigm called the transformational approach was developed. This paradigm has continued to grow in popularity and presently occupies a central place in leadership research (Northhouse, 2004). Transformational leaders motivate others to be more than merely the sum of their parts. They are able to create synergistic relationships within teams and help their followers grow. This is a critical skill for a leader who must unite two separate organizations when spearheading a collaborative performance-based IPT organization. Much of the research going back to the 1980s found that teams led by transformational leaders were characterized by increased effort and productivity (Bass, 1995). Transactional leaders look at what is required and use a "carrot and stick" approach to management, basing outcomes on delivering results that derive from their specific

requirements (Northhouse, 2004). However, during a time of performance-based organizational culture, it is not enough to satisfy requirements; an effective leader must anticipate the needs of the people who make up the organization and the environment to understand anticipated needs of all stakeholders.

In his book, *Leadership: Theory and Practice,* Northouse (2004) introduces a 1985 study by Bass that focuses on a model of transformational leadership. Bass argues that transformational leaders motivate followers to do more than what is expected of them by (a) raising followers' levels of consciousness about the importance and value of specified and idealized goals, (b) getting followers to transcend their own self-interest for the sake of the team or organization, and (c) motivating followers to address higher-level needs. This leadership style and Robbins' (2005) expectancy theory, discussed earlier in this chapter, share the common attribute of considering the benefits of employee motivation.

The attributes of transformational leadership may be the best fit for collaborations between public and private entities. Throughout this time, leaders should act as role models, share risks with followers, demonstrate high standards for conduct, avoid using power for personal gain, and inspire the team. According to one award-wining organizational leadership instructor, leaders should inspire employees by providing meaning, displaying enthusiasm and optimism, creating team spirit, clearly communicating expectations, and demonstrating a shared vision (F. Madjidi, personal communication, April 10, 2006). Kouzes and Posner (2002) state, "Transformational leadership occurs when, in their interactions, people 'raise one another to higher levels of motivation and morality'" (p. 153). Transformational leadership provides the members

of IPT organizations with greater communication about expectations and couples the identities of the followers to the collective identity of the new organization. Blanchard (2008) eloquently describes the new role of the transformational leader:

> In the past, the emphasis was more on the leader as "boss." Today, leaders must be partners with their people; they can no longer lead with position power alone. Leaders must move from the command-and-control role of judging and evaluating to a role of ensuring accountability through supporting, coaching, and cheerleading. (p. 236)

One of the key characteristics of transformational leaders mentioned is their authenticity. They see the whole person and not just an employee. In his book, *Leadership From the Inside Out*, Cashman (1998) offers five touchstones for authentic leadership:

1. Know yourself authentically (look inward, understand yourself);
2. Listen authentically (authentic listening is the key to synergy);
3. Express authentically (straight talk, without being blunt);
4. Appreciate authentically (show kindness, be appreciative); and
5. Serve authentically (pride in leadership, with humility, stewardship). (p. 144)

These principles resonate with the researcher as a useful leadership approach to the transition to a collaborative business environment. Looking for these traits in one's self as a leader or when selecting new leaders could be of great benefit to those being led, as well as all to stakeholders in the company. For example, authenticity breeds trust and trust builds confidence that the people leading an organization are working for the best interests of the institution and its stakeholders.

Results of a study published in 2005 by four universities (from Nebraska, Illinois, Mississippi, and China) "examined how collective [viewpoint] and self-efficacy moderated the influence of transformational leadership on followers' work related attitudes" (Walumbwa, Lawler, & Avolio, 2005, p. 1). The study concluded that the effects of transformational leadership on work-related attitudes can differ depending on each individual's level of self-efficacy and collective efficacy. The results of this study can be useful to leadership at a time when members of the organization are looking for truth about the decision for change and an understanding of what lies ahead for them in the organization.

Leadership measurement and Leadership Practices Inventory (LPI) instrument. Kouzes and Posner (1987) describe five key transformational leadership behaviors that can be assessed by the Leadership Practices Inventory (LPI; Posner & Kouzes, 1988). This valid and reliable instrument is backed by 25 years of original research and data from millions of leaders around the world. A study by Carless (2001) examined the construct validity of the LPI by using confirmatory factor analysis to test three alternate conceptual models. It was concluded that LPI assessed an over-arching higher order transformational leadership. The implications of the findings for management development programs were discussed with these findings of transformational leadership noted for review against findings from interviews that were conducted for this study. Several meta-reviews of leadership development instruments have been conducted. The LPI is consistently rated among the best leadership assessment tools, regardless of the criteria. For example, in one assessment of 18 different leadership

instruments, the LPI was the only one to receive the top score in psychometric soundness and ease of use (Ottinger, 1990).

According to Madzar (2001), an argument is developed and tested that a superior's perceived leadership style affects subordinates' information inquiry in an organizational setting. Transformational and transactional leadership theories were utilized to postulate that the content and frequency of information sought by a subordinate from his or her superior will vary depending on that superior's leadership style. Therefore, it is prudent to investigate literature that may link the leadership style with the organizational culture necessary to execute a performance-based contract arrangement with the goal of delivering capability that is expected of the customer.

Leadership culture and change. A review of literature indicates that for thousands of years people have defined culture through a variety of lenses or perspectives, including geographic, religious, tribal, and business. The previous section identified the roles of the executive and the need to transition their thinking in a performance-based business environment. This section shifts focus to how leadership and culture relate to one another. The majority of the literature reviewed concurs that the culture of any organization and the leadership of that organization are inextricably intertwined. Schein (2004) notes:

> Culture and leadership are two sides of the same coin, in that leaders first create cultures when they create groups and organizations. Once cultures exist, they determine the criteria for leadership and thus determine who will or will not be a leader. But if elements of a culture become dysfunctional, it is the unique function of leadership to be able to perceive the functional and dysfunctional

> elements of the existing culture and to manage culture evolution and change in such a way that the group can survive in a changing environment. (p. 23)

Research indicates that every leader views culture slightly differently. In his book, *Organizational Culture and Leadership*, Schein (1992) defines culture as follows:

> A pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration that has worked well enough to be considered valid and therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems. (p. 55)

Culture can either react favorably or poorly during times of change. Change resulting from transitioning to a performance-based environment has the potential to create a pervading feeling of invalidity as uncertainty assails between the contractors and customers. In order to avoid this state of affairs, the IPTs must carefully craft actions to facilitate and expedite the transition from the old to the new organizational culture.

Robbins (2005) defines organizational culture as "a shared meaning held by members that distinguishes one organization from other organizations" (p. 123). It is important to understand this nuance when considering the performance-based business environment and new IPT members, as individuals could try to hold on to its past in an attempt to avoid the dissolution of the old, familiar organization. Bolman and Deal (2003) define culture as "explicit and implicit shared meaning by members in an organization that guides perceptions, assumptions, and expectations leading to certain behaviors" (p. 243). Their definition emphasizes the role behaviors play in how well or poorly tasks are accomplished. As a result of this concept, IPTs need to established interventions to help leadership recognize unhelpful behaviors so that adaptation and

integration can prevail during the performance of tasks that are necessary to create positive outcomes. It is evident that leaders understand their organization's culture in order to effectively manage the integrated teams; cultural knowledge is also essential in executing business processes that are necessary for the development of outstanding aerospace products and services. For example, in examining the key factors that govern high-performing organizational culture, it is evident that certain qualities are paramount to its continued success, including clear objectives, expectations for exemplary performance, rewards for innovation, encouraging competitiveness, and the organization's ability to sustain its performance (Reid & Hubbell, 2005).

The executive leadership of both customers and aerospace companies that have led successful programs are expected to not have had an easy time during the IPT development, when the challenges and unknowns of two legacy organizations and cultures are being smashed together. Schein (1992) states, "If leaders do not become conscious of the cultures in which they are embedded, those cultures will manage them . . . and, it is essential to leaders if they are to lead" (p. 144).

Organizational leadership in a performance-based environment. It is important to understand the role of leaders within the organization as they set the tone for the people who ultimately achieve program performance targets. Leadership theories through the ages have tended to focus on the behaviors and attributes of the leader. Most large companies have lists of competences and skills that they expect their leaders to display and training and appraisal programs that focus on how to be an effective leader (Lord & Hall, 2005). So, how can leaders effectively lead global IPT organizations? Do they need to be flexible in style, a different face to each individual, or is it better to have a

consistent style and run the risk that one will not inspire some cultures and personalities? In other organizations, leadership criteria are developed by looking at the behaviors of existing top managers, running the risk of creating a new generation of leaders based on what was successful in the last 20 years, rather than what is needed in the next 20.

According to Lord and Hall (2005), there is too much emphasis on what the leader does and too little on what leaders want the followers to achieve. Lord and Hall go on to imply that leaders focus too much on what successful leaders have done in the past, rather than what is needed in the future. The following section looks at how leaders need to behave in order to obtain desired behaviors from their followers.

In a performance-based business environment, it is most critical that team members are encouraged to be self-motivated, so leadership must give them the space to do this. Leaders must encourage them to be challenging, so leaders need to give teammates the opportunity to overturn their decisions and change their minds from time to time. For teammates to be self-starting, self-motivated, and knowledgeable, leaders cannot direct how they spend their time every day. Leaders are learning at DAU that performance-based acquisitions and environments reap benefits to both the USAF and the contractors with whom they do business each day. Although, review by the researcher of DAU curriculum indicates it does not typically teach these leaders about the issues they may face and the organizational implications of doing business in this transformational environment to help them avoid pitfalls and quickly benefit from performance based contracts. A review of literature on PBL-related activities revealed that, in 1998, DoD established 30 sustainment pilot programs, of which 24 adopted some type of innovative product support strategies (U.S. Navy, 2001).

Summary of Literature Review

This study provides an update on what literature currently reveals about leadership styles in performance-based logistics environments. A review of existing literature related to the proposed study revealed that extensive consideration has been given to performance-based logistics (PBL) in terms of value and practices that lead to high performance by contractors for the USG. An examination of literature also revealed extensive information exists on leadership styles and organizational culture. Although somewhat limited, information exists on integrated product teams (IPTs) and how they contribute to an organization.

Maintaining major weapon systems such as high technology aircraft in the USAF inventory is complex, requiring well planned and executed sustainment programs that span a life cycle of approximately 30 years. These sustainment programs are focused on sustainment outcomes that can be best supported in a performance-based business environment between contractors (private) and the USG (public). According to Miller (2008), PBL works. It is a critical strategy for making sure war fighters have the equipment they need when they need it. Government, industry, and academic studies show PBL contracts regularly improve availability 20% to 40%. There is little research determining what is or not working well from a leadership and organizational culture perspective. Based on literature reviews, PBL is not just a transactional business. This researcher believes that leadership styles are needed to influence the design, development, and execution of a performance-based organizational culture, one that differs from the traditional relationship between contractors and the government. According to some experts working in the aerospace industry, IPT environments create

performance-based on culture and willingness to perform above and beyond what might be expected in a normal business environment. IPT culture is transformational versus transactional in practice. This researcher is interested in identifying those leadership attributes that drive a performance-focused organizational culture. The evolution of roles, culture, and change is a determinant in the success of a performance-based business culture. Research reveals that, when properly implemented, performance-based logistics can be an important part of the solution (Miller, 2008). In summary, this study seeks to identify those leadership attributes that have proven successful in highly regarded performance-based logistics programs, as recognized by public and private industry. In addition, this study seeks to determine what effect performance-based contracts have on organizational culture and identify what value is created as a result of that organization.

The next chapter describes the methodology, design, and instrumentation for this study of leadership attributes, organizational culture, and performance-based business environments within the aerospace industry, as well as plans for analysis necessary to answer the research questions for this study.

Chapter 3: Methodology

This chapter explains details of research method and design, how the data set was collected, the nature of the population, and the development of survey tools. This study includes qualitative approaches to collect and report findings related to the three research questions. This study sought to identify those leadership attributes that have proven successful in highly regarded performance-based logistics programs, as recognized by public and private industry. In addition, this study sought to determine what effect performance-based contracts have on organizational culture and identify what value is created as a result of that culture.

Restatement of Research Questions

To facilitate the study process and achieve the goals of the study, the following research questions were developed:

1. What are the attributes necessary for leading in a performance-based business environment?
2. What impact does leadership attributes have on organizational development in an integrated product team culture?
3. How does organizational culture influence performance outcomes in a performance-based business environment?

Research Design and Rationale

There appears to be limited empirical research published concerning leadership attributes, influence on organizational culture, and outcomes associated with both performance-based contract for life cycle sustainment services or performance-based

business environments. This researcher identified and utilized existing tools to examine performance-based logistics contracting and elements that contribute to its success.

First, it was important to identify those leadership attributes that have proven successful in highly regarded PBL programs recognized by both public and private industry. Second it was important to determine what effect performance-based contracts have on organizational culture and finally to determine what value is created as a result of that organizational culture.

This researcher believed the best approach to answering questions identified for this research was a case study methodology. According to Creswell (1998), a case study is an exploration of a case (or multiple cases) over time through detailed, in-depth data collection involving multiple sources of information rich in context. The data collection was extensive, drawing on multiple sources of information such as observations, interviews, documents, and written survey responses. In this instance, research activity was focused on performance-based contracting for the USG by private aerospace industry contractors.

Case Study Research Method

A qualitative research methodology following the case study method was used to investigate effective leadership attributes and the effect on organizational culture in performance-based business environments within the aerospace industry. A case study is a research methodology commonly used in social science. It is based on an in-depth investigation of a single individual, group, or event to explore causation in order to find underlying principles (Shepard, 2003). The group research for this study is focused on the U.S. aerospace industry and introduction and evolution of PBL and business

environments. A case study is the examination of a single instance or events whereby the researcher may gain a sharpened understanding of why the instance happened as it did, and what might become important to look at more extensively in future research (Flyvbjerg, 2006). Yin (1984) points out that researchers may select cases not only when they are critical (to testing a theory), but also when they are revelatory (revealing relationships that cannot be studied by other means) or unusual (throwing light on extreme cases). Because there is little data for review on the subject of performance-based business environment outcomes and associated contract constructs, this research topic should prove to be revelatory, unusual, and relevant. The study results will be of interest in the United States and insights may be of significant interest internationally with the growing interest in performance-based life cycle sustainment for complex systems globally.

Jensen and Rodgers (2001) set forth a typology of case studies, including these types:

1. Snapshot case studies: Detailed, objective study of one entity at one point in time. Hypothesis-testing by comparing patterns across sub-entities (e.g., comparing departments within the case study agency).
2. Longitudinal case studies: Quantitative and/or qualitative study of one research entity at multiple time points.
3. Pre-post case studies: Study of one research entity at two time points separated by a critical event. A critical event is one that on the basis of a theory under study would be expected to impact case observations significantly.

4. Patchwork case studies: A set of multiple case studies of the same research entity, using snapshot, longitudinal, and/or pre-post designs. This multi-design approach is intended to provide a more holistic view of the dynamics of the research subject.
5. Comparative case studies: A set of multiple case studies of multiple entities for the purpose of cross-unit comparison. Both qualitative and quantitative comparisons are generally made.

This study was a snapshot case study focused on the development of in-depth analysis of a case, the case being a specific industry type within the United States. The data collection included multiple sources: documents, previously documented research results, interviews and any related physical artifacts such as models or processes. Data analysis was primarily descriptive and included themes or assertions.

Case selection should be theory-driven. The analysis provided depth on the subject focus of performance-based outcomes in the aerospace and defense industry. This focus tested propositions that are relevant to significant theoretical issues in organization leadership and culture. According to Garson (2008), theoretical issues may be political-theoretic, decision-theoretic, economic or market-theoretic, or public policy or action-theoretic, to name some of the possible dimensions of theory. In this way the criteria for acceptable case study dissertations do not differ from those for other types of dissertations.

Because case study dissertations seek to provide theoretical and some policy insight for a single and focused case, a triangulation approach for validation of the research was selected. This rigorous approach involved a multi-method design in which

key constructs and processes are traced using more than a single methodology. According to Morgan (2001), research designs for combining qualitative and quantitative methods are an accepted method for dissertations. The multiple methods chosen for this research included structured interviews, sample surveys, narrative analysis, participant observation, as well as public and private archival records. Morgan asserts that testing the same propositions through data gathered by multiple methods helps address some of the validation problems in case study designs.

This case study approach allowed for the compilation of rich and current information through the interviews and survey. Much of the information and detail provided through this research was only available in the minds of top leaders in the aerospace industry. The information and knowledge of these leaders is essential to the implementation and alignment of evolving policy decisions that will impact how major weapon systems will be sustained throughout their life cycle for decades to come. The one-on-one interview sessions were the preferred methodology for gathering information from top leaders in the aerospace field. The interviews allowed for great range and depth. Interviews permit probing to obtain more data (which made it possible to establish and maintain rapport with participants), and also provided a means of checking information between the interviewer and interviewees (Isaac & Michael, 1997). In addition to the interview method of data collection, a survey was given to each interviewed participant to determine what leadership styles are inherent in those individuals in proven leadership roles in the focused field of outcome-based acquisitions for life cycle systems sustainment in the aerospace industry.

Materials

Documentation and instruments used for the present study are included in the appendix section and are listed as follows:

- Appendix A: IRB Exemption Approval
- Appendix B: Permission from Kouzes Posner International
- Appendix C: Informed Consent Letter
- Appendix D: Accompanying Statement for LPI and Questionnaire
- Appendix E: Leadership Practices Inventory (LPI) Assessment
- Appendix F: The Interview Questions
- Appendix G: PBL Newsletter
- Appendix H: LPI Survey Results
- Appendix I: LPI Scores: Combined Totals

Protection of Human Subjects

Prior to any contact with participants chosen for the interviews and LPI assessment, the researcher enrolled and completed coursework required to satisfy the requirements of Pepperdine University's Graduate School of Education and Psychology's Institutional Review Board (IRB). This coursework provided the researcher with an in-depth appreciation and understanding of the importance of requirements for the protection of human subjects. IRB approval was secured (Appendix A).

After permission was granted by the LPI owners (Appendix B), each of the five participants agreed to participate. All participants involved in the study were given the details and a full understanding of the study through the informed consent letter. Each participant did freely consent to contribute to the interviews and survey. It was agreed

that for each of the participants of the study, their names and company names would remain confidential. The three aerospace defense companies are designated ADC1-3. All research material as it was collected was scanned and stored in an encrypted folder on the researcher's hard drive. All information will be purged following an elapsed period of 5 calendar years. Each of the participants did receive a personal letter from the researcher thanking them for their participation and the contribution of new and documented information on the subject of performance-based contracting.

Data Sources

This study used of three sources of data. The first was the distribution, analysis, and compilation of executive leadership data utilizing Kouzes and Posner's (1988) LPI assessment. The second was a formal interview to gather data on all five participants' background, leadership role, leadership style, barriers and obstacles, and behaviors. The third was public domain sites associated with executive participant companies, used for obtaining performance data. Ultimately performance data sources were obtained through releasable presentations on the Aerospace Industry Association (AIA) website.

The Leadership Practices Inventory (LPI) Instrument

The LPI instrument provides both seasoned and aspiring leaders who need a quick and easy way to rate themselves on the five practices behaviors in their performance as leaders. This instrument was determined by the researcher to be ideal to assess the leadership attributes of proven leaders in a performance-based outcome environment. Considering that leaders set the tone and are looked upon for the guiding vision, mission, and common goals of a collaborative performance-based environment, determining the

success factors of a leader in the performance-based aerospace field is of relevant concern.

Characteristics of the LPI. The Leadership Practices Inventory was developed through a triangulation of qualitative and quantitative research methods and studies. Theories of transformational leadership attempt to describe leadership behaviors that are associated with above average performance by subordinates. In-depth interviews and written case studies from personal-best leadership experiences generated the conceptual framework, which consists of five leadership practices: (a) modeling the way, (b) inspiring a shared vision, (c) challenging the process, (d) enabling others to act, (e) encouraging the heart (Leadership Challenge, 2012).

Posner and Kouzes (1988) describe five key transformational leadership behaviors that can be assessed by the Leadership Practices Inventory (LPI). The LPI-Individual includes the use of the LPI-Self assessment, a 30-item instrument that helps individuals measure their leadership competencies, while guiding them through the process of applying Kouzes and Posner's (2003) Five Practices of Exemplary Leadership® model to real-life organizational challenges. The LPI was created by developing a set of statements describing each of the various leadership actions and behaviors. Each statement was originally cast on a 5-point Likert scale, and reformulated in 1999 into a more robust and sensitive 10-point Likert-scale. A higher value represents more frequent use of a leadership behavior. For example: (a) almost never do what is described in the statement, (b) rarely, (c) seldom, (d) once in a while, (e) occasionally, (f) sometimes, (g) fairly often, (h) usually, (i) very frequently, and (j) almost always do what is described in the statement.

The LPI contains 30 statements: six statements for measuring each of the five key practices of exemplary leaders. Both a Self and Observer form of the LPI were used for the target executives for discovery of findings. In addition, subsequent forms of the Leadership Practices Inventory have been developed for use with various populations. For example, there is a version for use with individual contributors or non-managers (LPI-Individual Contributor), another for use with a group of people (LPI-Team), and one for use with college students (LPI-Student). These instruments have both a Self and Observer version, and all have been subject to the same psychometric analyses as were applied originally to the LPI.

According to Sashkin and Rosenbach (1998), the actions that make up these practices were translated into behavioral statements. Following several iterative psychometric processes, the resulting instrument has been administered to over 350,000 managers and non-managers across a variety of organizations, disciplines, and demographic backgrounds.

Validation of the LPI. The LPI instrument has been the subject of many studies to determine validity and reliability of the instrument. This valid and reliable instrument is backed by 25 years of research from millions of leaders around the world. A study by Carless (2001) examined the construct validity of the LPI by using confirmatory factor analysis to test three alternate conceptual models. The sample consisted of 1400 subordinates who worked for an international finance company. It was concluded that LPI assessed an over-arching higher order transformational leadership. The implications of the findings for management development programs were discussed. Several meta-reviews of leadership development instruments have been conducted. The LPI is

consistently rated among the best, regardless of the criteria. For example, in one assessment of 18 different leadership instruments, the LPI was the only one to receive the top score in psychometric soundness and ease of use (Ottinger, 1990).

In research by Madzar (2001), an argument was developed and tested that a superior's perceived leadership style affects subordinates' information inquiry in an organizational setting. Transformational and transactional leadership theories were utilized to postulate that the content and frequency of information sought by a subordinate from his or her superior will vary depending on that superior's leadership style. This relationship was tested with individual difference predictors in mind, such as job-related tolerance for ambiguity, organization-based self-esteem, and work-domain goal orientation of subordinates. Empirical results, based on the field study using survey data and longitudinal checklist recording, show general support for the model.

The question of whether the LPI scores are significantly related to other critical behavioral (individual and organizational) performance measures is probably the most important practical matter to participants (leaders and their organizations). Overall, the LPI has excellent concurrent validity, and leadership scores are consistently associated with important aspects of managerial and organizational effectiveness such as workgroup performance, team cohesiveness, commitment, satisfaction, and credibility. The literature review discussed other studies relevant to LPI validity and reliability.

The Interview Questions

The interview questions were provided in advance, returned to the researcher, and clarifying questions were developed to ensure a thorough understanding of the interviewee's response. Appendix F provides detail of the interview structure by section.

Panel of experts review of interview questions for validity. To ensure the validity of the interview questions, a panel was selected consisting of experts in the PBL field associated with the Aerospace Industry Association (AIA). The AIA is an organization that solicits both public and private industry experts to review and make recommendations for improvement to current issues and associated policy of special interest to state, federal, public, and private concerns in the aerospace industry. These experts reviewed the interview questions during a meeting pre-arranged by the researcher during a summer conference that the researcher attended and participated in as an industry expert. The experts reviewing the questionnaire provided significant feedback on the questions and offered clarifying language that assisted study participants to better understand the questions. Redundancy or repetition of question content was eliminated. Two questions were re-written in their entirety to allow a more open-ended approach versus leading questions. The intent was to allow the study participants the opportunity to expand on individual knowledge and not limit range and depth of the answers. This researcher is confident that the validation process did contribute to a rich data capture of information important to the research and data collection for this study.

Pilot test of interview questions. The final set of interview questions had a total of 16 questions. The two executives from ADC1 were asked to read each question and attempt to respond, with the understanding of the level of leadership and subject matter expert that was the target data provider. The two executives were not participants of the study, but like the participants they were proven experts in the field of performance-based contracts demonstrated by a decade of performance on a major weapon system. They provided an objective assessment on complexity and average time that should be allowed

to complete the interview. It was determined that the researcher should allow 45 minutes to complete the interview as a result of the pilot test. Actual time was closer to 1 hour. Three questions were added: one related to leadership style, one related to cultural barriers, and one related to organizational behaviors for a performance-based business environment. No questions were deleted. One question was updated to clarify and ensure that responses by interviewees provided solid documentation related to leadership style of successful executives operating in a PBL environment.

Population and Sample

The population for this study includes top managerial employees of those major aerospace companies that have been awarded Department of Defense (DoD) sponsored program-level awards related to performance-based life cycle sustainment. Three of those major aerospace companies are the focus of this study. Those companies are headquartered in the southeastern, south central, and north central regions of the United States. Executive level leadership is the main interest for this study. Five senior executives, employed at three major aerospace and defense companies that have been awarded DOD sponsored program level awards and are recognized industry leaders on the subject of PBL globally, were the participants in this study. These leaders are currently program managers of major defense industry weapon systems and have been recognized for outstanding achievement through aerospace industry professional associations, which distinguishes them in this industry. The participants of this study genuinely expressed a desire to share information with evolving industry leaders to ensure better life cycle integrity of all weapon systems of the future.

Collectively, these leaders possess over 160 years of specific and valuable experience in public and private life cycle systems sustainment that are shared in this study. The five participants have all been involved in high multi-million or multi-billion-dollar life cycle sustainment acquisition programs as an innovator or they have proven themselves in the execution of a performance-based contract. Combined with their noted experience in leadership, the average education level equates to a master's degree. The purpose of providing this information is to identify the extensive experience and background of the participants contributing to the wealth of knowledge for this research. They should be considered exceptionally qualified respondents in this field of study.

Sampling Technique

One venue that brings these leaders together twice annually is the Aerospace Industry Association (AIA), which provided a target-rich environment of leaders gathered in one place at one time. Participant consideration for this study began at spring and fall Aerospace Industry Association (AIA) conferences held at Clearwater, Florida, and Hilton Head South Carolina respectively. This researcher is a member of AIA and served as a panel member and subject matter expert during a prior spring event. All participant executives were available for this study upon request. The technique considered for this study is known as convenience sampling. As its name implies, convenience sampling refers to the collection of information from members of the population "in which those invited to participate in the study are simply those who are available to the researcher" (Morse & Richards, 2007, p. 195). The researcher established criteria that (a) identified executive leaders of a successful performance-based

program, (b) associated with a major aerospace and defense company, (c) availability, and (d) willingness to participate in research.

Data Collection Protocol

Following a review of the PBL literature, individuals and organizations engaged in PBL-type activities were identified. The individuals were then grouped into potential respondents into four categories: government or public employees, government or public executives, industry employees, and industry executives. It was then determined that the single participant group would be private industry executives. An industry conference was used to locate potential participants (Appendix G).

The first step in contacting potential subjects was an email sent by the researcher to five PBL program executives chosen for the study to request their participation and provide an informed consent form for them to fill out if they should decide to participate in the study. This first step was critical to capture the interest of the top executives on the subject of PBLs in the aerospace defense industry. The request was short and concise and followed by a phone call immediately following the email from the researcher to maintain interest. The email content identified the purpose of the study, why the prospective participant's involvement was important, and what was expected of them as a research participant. Each of the participants was assured confidentiality throughout the process, and the informed consent letter (Appendix C) was provided to each participant with the option of withdrawing their participation at any time, with no explanation required. Five top executives from three major aerospace companies agreed to participate in the case study.

A formal request was made in writing expressing interest and permission to utilize the LPI instrument for the researcher's dissertation findings. Permission was obtained (Appendix B). The researcher administered the LPI-Individual Contributor and the LPI-Self. Findings were accumulated and documented for behavior patterns of successful leaders in a performance-based business environment. The researcher asked each participant how long it took to complete the LPI instrument; the average time was 35 minutes. All data set was then compiled and electronically filed by the researcher for review. This information was available prior to interviews.

In-depth interviews, lasting an average of 60 minutes were conducted across the nation. For example, interviews were conducted at aerospace industry locations in California, Washington, D.C., Florida, and Missouri. In one instance, a formal interview was conducted via telephone due to the executive's limited availability. To ensure accuracy of the data collected from interviews, the researcher chose a reliable observer to also take notes at the interview. At the end of the interview, answers were read back to the interviewee who verified the accuracy of the answer, provided clarification, or provided expansions for his or her responses. All interviews were completed at various locations including participant business locations and while they were attending industry conferences.

Analytical Techniques

All data and themes obtained from the data collection were received, electronically filed, reviewed and validated for completeness to ensure that all questions were fully answered. The participant responses from the interview questions were then

documented and coded to align with the research questions and themes synthesized with the LPI results.

The LPI instrument. The LPI results were analyzed with LPI-specific analysis software then stored in a database for review and reference as descriptive results were tabulated. The researcher recruited a statistician to categorize statistics and findings such as mean, range, and standard deviation for calculation and review of findings.

Interview data coding system. The researcher utilized a common coding system to review, analyze, and report on data collected from the interviews of leaders performing on successful performance-based life cycle programs. The coding system focuses specifically on techniques for coding leadership attributes and organizational interactions. It was designed to inform the reader about the concepts underlying given leadership attributes and the methodology entailed in using it. The researcher determined that a method of establishing patterns and coding the responses from interviewees utilizing a proven coding system was necessary. The coding system was established to categorize similar responses into themes and settings to synthesize answers to the research questions. Similarly, the findings documented from the LPI tool were categorized to determine qualitative significance of senior leadership responses to the research questions. All themes gathered as discoveries from the interviews and LPI tool are fully addressed in Chapter 4 of this study.

Limitations

The perception of the individuals participating in the interview process can significantly influence the quality of information gathered. For instance, if there is a lack of communication about the purpose of the interview, less than optimal results could have

been obtained and the findings may have lacked depth. Each interview was prefaced with an explanation about its purpose in order to gain user understanding and commitment. In addition, sensitivity to fact that the researcher works for a business competitor may have limited the responses if participants were concerned that a response to a question during an interview may have been considered intellectual property. The informed consent letter helped relieve potential concerns.

Each interview was complete within a 1 to 2 hour period, with some telephone follow-up to solicit clarification on interview results. Although a detailed questionnaire was devised to guide each interview and gather sufficient information for the study, it was not possible to review each experience level considering the system life cycle of varied program contracts, given the limited time available with each participant. Although this was a limitation, it is the opinion of the researcher that sufficient information was gathered to support the objectives of the study.

Every effort was made to identify key personnel who would and did contribute significance to this study. The convenience sampling approach is subject to bias because people select themselves or are selected based on availability criteria that may differentiate them from other members of the designated population. It is also the weakest form of sampling (Polit & Beck, 2004). In the case of the present study, however, the sampling method should be considered purposeful sampling more than convenience sampling.

Conclusion

The researcher was successful in securing the participation of a select group of private industry leaders involved with the planning, development, operations, or

leadership of successful performance-based contracts. Primary data sources were the LPI assessments and interviews with these industry leaders. The five practices of exemplary leadership framework and the LPI have been extensively applied in many organizational settings and is highly regarded in both the academic and practitioner world. The findings documented from the LPI tool were categorized to determine qualitative significance of senior leadership responses to the research questions. The coding system for interviews was established to categorize similar responses into themes and settings to synthesize answers to the research questions. The findings and recommendations in this report are qualitative in nature; they are based on the varied opinions and insights of the executive leaders who were interviewed. Creswell (2007) stated, "For a case study, as in ethnography, analysis consists of making a detailed description of the case and its setting" (p. 163). The intent is to use the results from this study to inform stakeholders of current and future performance-based sustainment systems and aspiring leaders in a performance-based business environment. All themes gathered as discovery from the interviews and LPI tool are fully addressed in Chapter 4 of this study.

Chapter 4: Results

This chapter presents the findings that have resulted from completion of a Leadership Practices Inventory (LPI) assessment of these five aerospace executives associated with successful performance-based business environments with additional findings provided through in-depth interviews. The executive leaders were employed with three leading private industry providers of major weapon systems to the Department of Defense (DoD). The study utilized a case study method to identify effective leadership attributes of five proven aerospace executive leaders for delivering outstanding performance characteristics recognized by the DoD. This chapter provides results and analysis based on the findings of successful leadership attributes in a performance-based business environment, effects on organizational culture, and resultant outcomes as measured by public data.

Restatement of Problem

There is little research that describes leadership attributes necessary to shape organizational culture to operate effectively in a performance-based life cycle sustainment or performance-based logistics (PBL) business environment needed to form organizational relationships in collaborations between public and private entities. For the leader of an integrated product team, there is no recipe for shaping a cross-cultural team, consisting of public and private individual members, with the aim to develop them into a highly effective organization. Miller (2008) performed studies to identify the multiple benefits and even the misconceptions of performance-based logistics strategy and states, "responsible leaders will get ahead of the trends, recognize the coming burning platform and move now to prepare their organizations for the new reality" (p. 8). This study

examined leadership attributes and trends of successful leaders in the performance-based business environment and their effects on organizational culture. It further highlights the associated benefits or outcomes demanded by those customers.

Restatement of Purpose

This researcher believes that this study is meaningful for current and future leaders interested in identifying what leadership attributes work, how to best establish collaborative organizational culture and capture the inherent benefits of a performance-based culture. To establish and benefit from this culture, this study was intended to reveal the leadership attributes necessary to transform organizational culture in a performance-based business environment, and the associated outcomes of a performance-based culture.

The LPI and in-depth interviews allowed the researcher to understand the individual leader experience, lessons learned along their career journey and unveiling the key leadership attributes that can be used by future leaders seeking to enter the performance-based business environment. This approach assisted in documenting executive leadership experiences, thoughts, and ingredients for success encountered throughout their career.

Description of Participants

The researcher added demographic questions to the beginning of the LPI instrument to gather detailed information about the participants. A description of each participant's background is identified in this section and includes past history, role in a successful PBL program, total years of professional work experience, and highest level of education achieved. The name of each participants' company was not disclosed. The

companies were designated Aerospace Defense Company one through three (ADC 1-3). The information was obtained both from the LPI instrument and the formal interviews:

- Respondent 1 (R1): This participant is an executive director at a Fortune 50 aerospace and defense company (ADC1) located in the central United States. This participant has over 20 years of service in that industry with more than 30 years of professional work experience. This participant served in both DoD as a civilian executive and is now working for a major aerospace company focused on performance-based contracting advocacy. The highest level of education achieved was a master's degree.
- Respondent 2 (R2): This participant is an executive vice president (VP) at a Fortune 50 company (ADC2) located on the east coast of the United States. This participant has over 4 years of service in the aerospace and defense business with more than 41 years professional work experience. Participant R2 served in the DoD as a general officer and executive and is now working for a major aerospace company (ADC2) focused on military programs. This executive was responsible for instituting one of the most successful performance-based contracts in the USG history, as measured by public domain information. This participant is a performance-based contract advocate. The highest level of education achieved is a master's degree.
- Respondent 3 (R3): This participant is an executive senior VP from a Fortune 50 company (ADC2) located in the central United States. This participant has over 20 years of service in the aerospace and defense business with more than 30 years of professional work experience. This participant grew through the ranks of

ADC2 and is responsible for multiple performance-based contracts with approximate values up to $1 billion per year for some programs. This participant serves on industry advocacy boards related to performance-based logistics for collaborations between public and private entities. The highest level of education achieved is a master's degree.

- Respondent 4 (R4): This participant is an executive VP from a Fortune 50 company (ADC2) located in west coast of the United States. This participant has over 20 years of service in the aerospace and defense business with more than 30 years of professional work experience. This participant served in the U.S. enlisted ranks and is now working for a major aerospace company (ADC2) focused on execution of a large systems level performance-based contract. This participant always had a passion for working on aircraft, and the aerospace industry was a logical fit after the service. The highest level of education achieved is a master's degree.
- Respondent 5 (R5): This participant is an executive VP from a Fortune 50 company (ADC3) located in the east coast of the United States. S. This participant has approximately 10 years of service in the aerospace and defense business with more than 30 years of professional work experience. This participant served in both DoD as a civilian executive and is now working for a major aerospace company (ADC3) focused on performance-based contracting advocacy. This participant served over 20 years in the USG in senior civilian executive ranks. This participant felt the USAF and industry was a natural fit and

has always been fascinated with aircraft. The highest level of education achieved is a double master's degree.

Of the five participants, all have been involved in high multi-million to multi-billion dollar life cycle sustainment acquisition programs, with global presence either as an innovator, pathfinder, or successful executor of a performance-based contract. Combined they have more than 160 years of experience in leadership with the average education equating to a master's degree. Four of the five served in the U.S. military as either regular or civil service. The purpose of providing this information is to identify the extensive experience and background of the participants that contributed to the wealth of information for this study. By reviewing the findings from the LPI assessment and executive interviews, current and aspiring leaders in the performance-based business environment can evaluate those strengths identified by these participants who have proven successful in their respective business and work to mirror participant's leadership style.

Relationship Between Research Questions and Survey Instruments

The triangulation approach to documenting interview responses and aligning to research questions was effective and reflected in the interview responses. Table 1 provides a cross reference developed to show correlation to research questions, survey instrument, and interview questions.

Table 1

Matrix of Relationships Between Research Questions and Survey Instruments

Research Question(s)	LPI Assessment (Survey)	Interview Questions	Descriptive Statistics
1. What are the attributes necessary for leading in a performance-based business environment?	Intro 1-3 Questions 1-15	Sect A: 1,6 Sect B: 9,10,11	Means Standard Deviations Range Coding system
2. What impact does leadership attributes have on organizational development in an Integrated Product Team culture?	Questions 16-27	Sect A: 3,7,8 Sect C: 12-13	Means Standard Deviations Range Coding system
3. How does organizational culture influence performance outcomes in a performance-based business environment?		Sect A: 4,5 Sect C: 14-16	Coding system & evaluation of performance metrics, public domain of exec. leader companies

Research Question 1

Research question 1 asked: What are the attributes necessary for leading in a performance-based business environment? This question was divided into two distinct parts. The first part was the dissemination, administration, collection, and documentation of a LPI assessment by Posner and Kouzes (1988) for all five executive participants. The second was the same participant's involvement in formal interviews to obtain responses to specific questions related to research question 1 (RQ1). The interview questions are categorized into three sections (A-C). Section A provides background, leader's role, and information related to the participant's leadership style. Interview questions 1 and 6 relate to RQ1. Section B provides behavioral questions that relate to the leader's ability

to identify with organizational and cultural issues currently facing the performance-based business environment they support. Interview questions 9 to 11 relate to RQ1.

Part 1: LPI assessment results for RQ1. Each of the participant's assessment results and scores were compiled and are shown in Table 2.

Table 2

LPI Assessment Results

LPI 5 Practices	Participant					Total	*M*	*SD*	Variance	Range
	1	2	3	4	5					
Model the way	23	27	23	23	23	119	23.8	1.8	3.24	4
Inspire a shared vision	26	29	18	23	21	117	23.4	4.3	18.49	11
Challenge the process	24	27	20	24	24	119	23.8	2.5	6.25	7
Enable others to act	27	30	23	24	26	130	26.0	2.7	7.29	7
Encourage the heart	23	29	21	22	25	120	24	3.2	10.24	8

The researcher further thought it would be interesting to ask participants, before completing the LPI Self-assessment, if they would prioritize each of the Five Practices of Exemplary Leadership® behaviors in their performance as leaders to include: (a) modeling the way, (b) inspiring a shared vision, (c) challenging the process, (d) enabling others to act, and (e) encouraging the heart (Leadership Challenge, 2012). The results are identified in Table 3.

Table 3

LPI Five Practices® Behavior Priorities

LPI 5 Practices	Exec 1	Exec 2	Exec 3	Exec 4	Exec 5
Modeling the way	4	5	3	4	1
Inspiring shared vision	3	1	2	1	5
Challenging the process	2	4	5	3	4
Enabling others to act	1	2	1	5	3
Encouraging the heart	5	3	4	2	2

Part 1: Analysis of LPI assessment for RQ1. All five participants completed the LPI assessment and provided it to the researcher on or before the date requested. Each of the scores was compiled and tabulated in Table 3 for evaluation. The overall sample size of the executive leaders was small, thus it was difficult to interpret results with a high degree of statistical relevance. Still, the researcher considers the results of practical importance. The standard deviation indicates the extent of agreement among the individual leaders.

Observations amongst the leaders were fairly consistent for the leadership practices of model the way, challenge the process, and enable others to act. The standard deviation and range were higher for inspiring a shared vision and encouraging the heart. The compilation of data indicates that for the five executives, there was consistent alignment on most of the categories of the LPI with the exception of model the way. This did come as a surprise to the researcher because the priorities established by the executive leaders before responding to the formal LPI assessment indicated a high degree of priority for modeling the way and challenging the process, medium degree of priority for encouraging the heart, and low degree of priority for inspiring a shared vision and enabling others to act.

The researcher reviewed each of the five executive respondents' LPI assessments to determine what characteristics and trends were common amongst these successful leaders. Respondent scores (highest deemed most favorable) were documented with conclusions provided in Chapter 5.

Part 2: Interview results and analysis for RQ1. Research question 1 asked: What are the attributes necessary for leading in a performance-based business environment? Relevant interview questions include the following: Section A = 1, 6; Section B = 9-11. Interview responses are not included as verbatim quotes, but are abbreviated statements that mainly use the verbiage of participants themselves.

Interview question 1 asked: How many years have you been involved in performance-based life cycle sustainment programs for major weapon systems? Responses are as follows:

- R1: Since 1998, formally. Probably before that, but not under the official auspices of performance-based work.
- R2: Since approximately 1996 related to a pure performance-based contract.
- R3: 6 years.
- R4: Since approximately 1998 (14 years) with the contract award of a major systems-level PBL contract.
- R5: Since 2000 (12 years) with the contract award of a proof of concept PBL that led to full systems-level PBL contract. Just awarded a new sole source contract in 2012 that will go 10 additional years.

Analysis for interview question 1. Combined, the five executive leaders from three major aerospace companies have just over 6 decades of experience working and

leading performance-based logistics (PBL) programs. One executive had less than 10 years of longevity. This provides a solid experience base in the field of performance-based contracts and represents considerable expertise, considering these executives are pioneers in aerospace industry on this subject.

Interview question 6 asked: What leadership attributes are most effective in a performance-based business environment? Participants responded as follows:

- R1: Entrepreneurship, courage, persistence, vision (belief in doing the right thing at all cost), strategic enterprise perspective, and condition building (seeking the greater good).
- R2: There is a need for leaders to provide clear direction and guidance. This is imperative. You cannot assume people understand what you want. Think about an air traffic controller (turn to 3-3-zero), giving clear direction for take-off or landing.
- R3: Key attributes are customer knowledge, innovation, and focus on delivering results.
- R4: Trust. At its nucleus, each attribute in a leader's toolbox needs to evolve around trust. Performance-based business environments are not about micro management; it is an environment that is outcome-centric. Customers must trust that a private contractor is not taking a short term road for short term gain. It must be understood that the contractor is doing what is right for the customer.
- R5: Finds a way. Uses innovative thinking to get the job done, charts the course (clear goal setting), uses refreshed strategies, delivers results, maintains accountability to both customers and ADC3.

Analysis for interview question 6. The most effective leadership attributes align with a shared vision and belief in that vision by the entire enterprise. Providing clear unassuming leadership direction, putting the customer first, and doing this through close customer intimacy was emphasized. Courage to focus on the right outcomes at any cost or personal gain equates to doing the right thing in business. Pioneering change for the greater good and holding oneself accountable for performance outcomes must be demonstrated at the customer and corporate enterprise level.

Interview question 9 asked: What do you see as the top challenges with life cycle sustainment programs from a government (public) view? Participants responded as follows:

- R1: Affordability and long-term best value capability. Fostering competitive pressures and benefits (can be internally generated competition). Implementing repeatable processes.
- R2: USG has organizational barriers, and protection of that organization is like a castle with a moat and draw bridge. If USG likes like what a contractor brings, the bridge comes down and a contractor can enter the castle. If not, the bridge goes up and a contractor will have to swim across the moat (with alligators) and try to scale the walls to talk. Air Logistics Centers (ALCs) are huge castles with big bridges and moats. If a contractor truly provides a service that does not threaten the ALC organization, they like you. An alternate position is they will do everything to keep you out, so it can be a huge challenge. The reality may be that it doesn't matter if you are saving money—the customer may be more interested in protecting the castle. Things can breakdown walls, but it may take a burning

platform, such as a. DoD budget, to lower the bridge for positive constructive change. The end solution cannot be winner-takes-all. There is a need for a collaborative environment that utilizes combined program direction and best practices.

- R3: The biggest challenge for government in the performance-based environment is the shrinking budget while still having critical operational demands in the near term.
- R4: Longevity of a type of contract. There is a perception of loss of control (if the contractor is doing too much of the work) over a multi-year contract that contradicts with the government's stated need to compete, hold accountability for a program, and other expectations. This drives excessive oversight and inefficiency in a program. An example is that when you buy a new car, you don't go into the factory and look at how the car manufacturer builds the car. You have faith that Ford, Chevy, others will do their job. We [private industry] look to provide performance; that's our job. Our vision was one metric (measurement point). This may grow now, due to challenges.
- R5: The top challenges are funding that is needed to develop new cutting edge technology capabilities and ALC's need to be modernized at a faster pace than ever before. Funding and planning can no longer be done in the transactional way if USG ALC's are going to keep up with high technology advancements so they can be as effective as private industry.

Analysis for interview question 9. Working in a collaborative environment with USG-specific issues of budget constraints and oversight, demands for affordability, and

the need to maintain and protect USG industry domains is a great challenge. This creates barriers to a collaborative environment in working closely with private industry. Tightening budgets seems to trigger competition as a logical solution to perceived high costs. USG divisions experience competitive pressure from private industry as a threat to the very existence of some USG divisions. These are some of the challenges leaders need to be aware of as they set a direction for the greater team.

Interview question 10: What do you see as the top challenges with life cycle sustainment programs from an aerospace industry (private) view? Participants responded as follows:

- R1: Generating customer trust and mutual respect. Long-term contract partnering terms. Affordability and long-term best value capability.
- R2: Challenges of USG are consistent with private concerns. Because of budget concerns, industry tends to feel they will lose flexibility in performing to the contract. Aerospace industry needs to be innovative in putting together a contract construct (PBL) that helps USG deal with flexibility. This should help them with budgeting and will allow that draw bridge to open. The flexibility will help with only providing performance USG can afford. We need to find a balance .and show how to show connect to the twin peaks (balancing cost and performance to budget).
- R3: The biggest challenge is maintaining the value proposition of PBLs and life cycle sustainment business models while budgets shrink and the USG considers in-sourcing options that appear to be lower cost.

- R4: Probably not getting complacent or finding oneself with a mindset of sole source. Need to keep competitive juices flowing. Need to keep this in mind as the defense budget is declining and big PBL programs look too expensive. This all goes back to leadership and why we are here.
- R5: To continue the balance of depot partnerships with many weapon systems retiring, more work will have to be transferred to ALC's (USG) from industry. This has the potential to create an imbalance in USG versus industry capability.

Analysis for interview question 10. From a private industry view, performance-based contracts require long term commitment so contractors can invest in efficiencies and gain a return on investment that will mutually benefit the USG and business. This also allows private industry to focus investment monies on innovation, product improvements, efficiency and affordability initiatives versus a competitive position with customer ALC's and the cost associated with this. Due to USG annual budget challenges over the past decade, there is risk to the proper balance of cost versus performance that is most highly regarded and needed by the warfighter. The ability of contractors to dial up or down performance capability to match a changing USG budget is like trying to turn the titanic quickly. It takes approximately two years of advanced material buys to maintain fleet commitments. The common theme of related challenges is a need for speed and flexibility and establishing a rheostat for performance. This challenge has not been solved to date. Competitive fear surrounds private contractors having to deal with uncertainty of USG actions to in-source or solicit other service providers. Contractors then focus resources to competitive position rather than fully focusing on a need to balance the USG and private industrial base through collaborations between public and

private entities. Not being able to project a long range business plan creates challenges with private leaders trying to create value for the customer and the corporate enterprise.

Interview question 11 asked: What do you see as the common challenges between public/private organizations in a performance-based business environment? (This question uses *public/private* to refer to collaborations between public and private entities.) Participants responded as follows:

- R1: Champions that espouse common values, business models, and decision processes in which affordability and best value creation is held high by both public and private sector entities.
- R2: A key challenge is making clear who is the master of the castle. We live in our own castles, saddle up and go to the other guys, and then leave. A combined program office, the true collaborative environment, is the answer. Shared process and shared system breaks down old culture and builds new culture in the same castle, with people working together to a common vision.
- Understanding and executing to mutually-agreeable operating norms that allow for cooperative and collaborative environment, this allows for trust. A challenge is developing trust.
- R3: Maintaining the needed readiness for the warfighter at a reduced cost given budget cuts.
- R4: Competition. The government needs to satisfy a demand for competition for a contract and industry has to convince, to a prove-sole source position. Trust plays a role. When I think back, challenges are mainly due to two different perspectives: government looks at industry and says, “you’re motivated

differently." This creates a challenge for developing trust. Industry may question motives too, creating a challenge for developing trust.

- R5: Industry being able to effectively optimize performance without technically having full responsibility, accountability, and authority for the entire weapon system (e.g., total system support responsibility). The USAF's ability to seamlessly execute a PBL as a product support manager is a challenge. It is important to ensure the USG does not "get in the way" or raid budgets to fix a problem, then break another program element.

Analysis for interview question 11. Dealing with declining and unstable budget realities (balancing performance to affordable levels for what senior DoD officials call "doing more without more") is a common challenge between USG and private industry. On both sides, trust and senior level champions, who understand the challenges and issues along with the implications, is needed. Clear understanding of responsibility, accountability, and authority is still fuzzy with the introduction of the recent product support manager role. At this point in time, there is no clear formula to determine or define of the term *best value*. As was repeated by the executive leaders, the individual challenges are creating common challenges for a collaborative business environment that depends on trust and a common vision. The challenge of a perceived or real competitive position between public and private industry is the greatest barrier to the collaborative organization and culture.

Research Question 2

Research question 2 asked: What impact does leadership attributes have on organizational development in an integrated product team culture? This question was

answered with the same participant's involvement in formal interviews to obtain responses to specific questions related to research question 2 (RQ2). The interview questions are categorized into three sections (A-C). Relevant interview questions include the following: Section A = 3, 7, 8; Section B = N/A; Section C = 12-13. Section A provides background, leader's role, and information related to the participant's leadership style. Interview questions 3, 7, and 8 relate to RQ2. Section C provides behavioral questions regarding the organization and its culture, as well as the leader's role in enabling a collaborative culture and leadership style for motivating performance outcomes.

Interview question 3 asked: What does *culture* mean to you in a performance-based life cycle sustainment program? Participants responded as follows:

- R1: An organizational and individual system of knowledge, standards, folklore, leadership expectations, perceiving, reality, and actions to solve internal and external mission challenges. It is essential to understand whether the culture is input-focused, output-focused, outcome-focused, or enterprise-focused. Only in the last two organization culture types does PBL flourish.
- R2: Culture is the environment [such as a value of] individual thinking that contributes to the greater good, to allow people to speak up. Empowerment. It is results-based. It is important that culture includes people that feel they are expected to come up with ideas, execute, measure against a culture of performance, and monitor key metrics and cost. A leader nurtures culture. Have people raise or move their own bar [level of performance]. Don't forget that in a performance-based business environment, sometimes you have to learn to lower

the bar smartly, depending on the availability of monies. Culture is a common vision, and building a culture of performance does matter. It takes a whole series of steps (people working together) to move the needle of the performance gage.

- R3: Culture is critical; as we have to stay aligned to our military customers given the day-to-day readiness impact we have on their ability to execute their mission. Also, since the customer is sometimes our competitor, the long term partnership culture is critical.
- R4: From my leadership perspective, culture is the environment one creates. If you put the customer first, everything else will follow (contracts, meeting financial objectives, etc.). Having fun is a way to do this…and it can be contagious!
- R5: Culture in a PBL environment means a shared vision by all in the enterprise (ADC3 and our customers). The shared vision needs to include: customer first, continuous improvement, anywhere/anytime attitude, innovation; non-transactional business processes.

Analysis for interview question 3. The respondents collectively foster a culture of inclusiveness and empowerment, but they believe in first ensuring that management at all levels are aligned to provide the consistent guidance to teams. Building the right team with the right attitudes is imperative. Culture could bring about hard choices realizing that sometimes people do not fit, and actions need be taken swiftly. Putting the customer first is a common theme. A culture of alignment of shared vision and customer focus with open architecture for innovation creates the right attitudes within the organization to

perform and deliver performance outcomes. This results in a culture of people working together for the greater good.

Interview question 7 asked: How do those attributes support/influence organization development? Participants responded as follows:

- R1: By their evidence (example), others in the organization are attracted (or repelled). Build the organization by getting the right people on the bus. Sometimes I think about the book, *Good to Great*: "Hurdle the dead; stomp the weak." That statement is not meant to be insensitive, but leaders must bravely stay the course, regardless of naysayers.
- R2: Goes back to culture. You can have a leader of the organization, with sub-organizations such as IPTs. That string of leadership [used example ranging from commander to operational unit] that all have to have strong balance of attributes with the sum equating to good problem solving (decide what to do and doing do it) as one leadership team to create an effective organization, leading to success, leading to trust, and knowing that every day counts.
- R3: Clearly having people with customer knowledge (e.g., former military) that are intimately in tune with customer culture is critical. You also have to allow the team to try new things (innovation) while still making sure the near term goal of readiness is met (delivering results). Lastly, the organization has to have a partnership mindset.
- R4: I believe developing an organization, its core, has to do with aligning the right people within the organization to execute business, goals, and objectives. The organization's people must have the right focus and mindset for the foundation of

trust building with the customer over time. There must be trust internally as well as with the customer.

- R5: With the customers' environment (war time) constantly changing, having a stabilized organizational environment is critical to productivity and employee morale. ADC3 gives constant attention to their product line sustainment services, which allows the customer to go fight the battle. The more deliberate the ADC3 organization can be to organize effectively, the more successful we will be for our customer.

Analysis for interview question 7. As a leader nurtures culture through select leadership attributes, there is a cause and effect. The collective respondent's defined empowerment (cause) leads to innovation and improved efficiencies in the life cycle sustainment of the products they support. The performance outcomes (effects) become world class or outstanding. The leadership attributes breed the right people with the right attitude, focused on the success of a common mission. The organization is aligned, including leaders at all levels with people who understand what is expected of them. Further, those people feel compelled to build customer intimacy, find innovative ways to solve current and evolving problems, and take on the behaviors of their leaders in developing partnerships and placing customers first. This breeds trust amongst the organization and with customers.

Interview question 8 asked: What do you believe are the key ingredients for leaders executing a performance-based contract? The researcher determined that this question is redundant. Thus no analysis was performed.

Interview question 12 asked: What do you believe is the key enabler to employees executing a performance-based contract from a government (public) view? Participants responded as follows:

- R1: Respectable processes (business case analysis, templates); consistent, stable expectations; training and workshops.
- R2: A key enabler is a strong leadership team at all levels. The leadership must provide clear direction and guidance and ensure employees have all they need (training, safe environment, work stations, etc). It is a combination of enablers [an example was four corner pillars with a center piece]. For example, there was one a military operational readiness inspection (ORI) at an operating base that passed one year and failed the next. The leadership had moved on, the result being that the next ORI was a failure. There is a need for use of multiple enablers if the organization is truly going to get to expected performance levels. Empowerment is as the key with use of development of information technology.
- R3: The absolute key is maintaining a partnership culture between industry and government. Regardless of budgets, we have to find ways to work together and leverage the best of industry and government. The other key enablers are communication and transparency, which build trust.
- R4: Enablers are people, processes, tools, and sometimes belief in leadership. In our performance-based contract, we [industry] have the tools and ability to be flexible and can alter a path much easier than the government. The government is very capable, but constrained. I have heard customers say, "if I had it [flexibility]

. . . we could perform to the levels of a private contractor." Agility and flexibility gets the job done.

- R5: First there needs to be a realization that much of their work will be under a microscope. USG employees' need to remain sensitive to the fact that the contractor is obligated (motivated) to perform under the contract and incentives. USG services under a PBL (i.e., airframe maintenance) will be carefully monitored and measured by the contractor, more so than in a total USG or organic arrangement.

Analysis for interview question 11. There is a common theme related to flexibility and related to performance of assigned tasks for public industry. That flexibility is a result of a performance-based culture that incentivizes contractors to perform better, faster, and cheaper in a fixed-contract environment. Those incentives are recognized by the senior leader who in turn empowers employees to find better ways of doing business, rewards them, and keeps the door open to innovation. The leaders quickly identified the need for arming teams with the right people, processes, and tools to perform their jobs. With the added flexibility of the employees, a consistent and continuous improvement cycle evolves. A performance-based contract enables efficient and effective execution of the program efforts, providing benefits to the customers and the contractor. Contractors as original equipment manufacturers possess core competencies such as engineering aligned with systems development, supply chain management aligned with production buys, technical skills needed for maintenance engineering, field service, and other key roles essential to the life cycle sustainment of the aircraft. The continuity and stability allows for this knowledge to be readily available to

the USG. USG or public industry tends to transfer and deploy every 2 to 3 years so there is a loss of technical and overall program continuity. Leaders of successful performance-based contracts ensure that employees find ways to work together with their customers to help them understand their role in supporting the weapon system. Our national security depends on it. Thus national pride becomes an enabler and incentive to perform well. Working together in a collaborative business environment is underscored by trust.

Interview question 13 asked: What do you believe is the key enabler to employees executing a performance-based contract from a government (public) view? Participants responded as follows:

- R1: Engineering and supply chain integration, leadership endorsement of sustainment via performance-based strategies within the product line business; customer expectations. [Examples were C-17 and F-16 International].
- R2: [Participant indicated this question was answered by his previous response to question 12].
- R3: Same as previous response, along with a mindset of execution and responsiveness to customer needs.
- R4: Empowerment. When employees of an organization feel empowered to find solutions through innovation and creativity, they are truly motivated. [The participant gave examples of how efficiencies and process improvements in export control led to a happier customers customer and cost reductions.] A culture of innovation creates and promotes creativity.
- R5: The key enabler is keeping the focus on the customers' most important requirements (big picture). If a problem is beginning to arise, report it

immediately and have no problem speaking up. Have the courage to be open and honest with USG leadership, even if it may call out a USG shortcoming.

Analysis for interview question 11. Generally, the sense of pride in public industry is strong. The very fact that it was the USG who first initiated the performance-based concept demonstrates that innovation is present. Well qualified technical personnel are being trained in performance-based contracts through the Defense Acquisition University (DAU) and other well established training programs. This provides for key enablers for program execution being strong in core competencies of program management, acquisitions, and operations. More than one respondent indicated that if the public industry had the flexibility similar to that which private industry has to perform their tasks, they could perform those tasks entrusted to private industry just as well.

Research Question 3

Research question 3 asked: How does organizational culture influence performance outcomes in a performance-based business environment? This question was answered with the same participants' participant's involvement in formal interviews to obtain responses to specific questions related to research question 3. The interview questions are categorized into three sections (A-C). Section A provides background, leader's role, and information related to the participant's leadership style. Interview questions 4 and 5 relate to RQ3. Section C provides behavioral questions regarding the organization and its culture, as well as the leader's role in enabling a collaborative culture and leadership style for motivating performance outcomes. Interview questions 14 through 16 relate to RQ3. In addition, information was obtained from public domain sources to obtain a sample of performance outcomes of a highly successful PBL contract.

Relevant interview questions include the following: Section A = 4-5; Section B = N/A; Section C = 14-16.

Interview question 4 asked: How would you define a successful performance-based life cycle sustainment program? Participants responded as follows:

- R1: Customer (war fighter) is supportive of outcomes (i.e., really delighted). The company is consistently focused on and demonstrates achievement of key metrics. The customer, integrator, and providers operate in sync; integration is achieved by the power of PBL.
- R2: I remember drawing twin peaks that looked like a big *M* and trying to figure out (top-down) what are the metrics that make up the peak, the focus being on customers' most important requirements and only focusing on those things that mattered. The other peak is cost. The metric is *goal* versus *world class,* and the need to balance the two peaks, performance and cost. This has to be done by both the customer and industry. The team needs to focus on meeting the right level of metrics and doing the right things to get to world class while managing cost.
- R3: Lower cost over time with increasing or stable readiness while providing adequate business returns for industry so investments can be made to achieve continuous improvement.
- R4: Customer satisfaction. When the ultimate customer (user) is fighting for a private contractor to continue providing the products and services for them—this is success. An end-user customer tooting his horn for you is a great thing.
- R5: First and foremost, the organization executes a PBL to support the war fighter. It does not execute PBL to stay within the lines for the acquisition or

legislative customer stakeholders. The plane is the boss. The program maintains that focus and still remains responsive to the acquisition and legislative sensitivities. The organization, due to the right culture, exceeds performance commitments; they stretch.

Analysis for interview question 4. A successful life cycle sustainment program starts when the customer, integrator, and all providers operate in sync with the end goal in mind to keep the warfighters ready to perform their mission—supporting a war on terror or answering a call for humanitarian relief, where lives depend on them. This takes early understanding of the customers' most important requirements with little room for interpretation. It is racking, stacking, and balancing the most critical elements of performance needs against the overarching user mission with budget, policy, and other requirements to create the best value for all stakeholders. It is clear that experience identifies need for private industry to align with their USG counterparts with a common vision, mission, and goals to best support a program. Knowing leadership protocol and establishing a collaborative environment at the highest levels breeds trust and shapes the integrated product teams responsible for executing a program. Having the right organizational culture drives the right behavior, measured and meaningful, while managing lower cost with fair profit for services. The program that maintains that focus will stand the test of time and will remain sensitive to the needs of the front line user of the product, while addressing continued acquisition and legislative challenges. Working as a collaborative team, everything is possible.

Interview question 5 asked: What are your views on integrated product teams? How do they influence outcomes? Participants responded as follows:

- R1: Big supporter. I don't think there is or ever will be a viable alternative. The alternatives are ad-hoc and authoritarianism, but IPTs must be empowered and guided by serious, persevering leadership expectations.
- R2: I like IPTs. They are only successful if (a) you have the right leadership team with the right chemistry and if (b) the team is motivated in the right way. They must understand their responsibilities to get to what is being measured and who has the lead. I am a believer, but not into "let's just do them to do them." The *T* in team is just that. Multiple IPTs must hook together to make up the mother ship.
- R3: IPTs are very good but sometimes overdone. There are aspects of the business that requires great functional excellence and process execution that lends itself to more functional or capability-based organizational structures. IPTs are most useful, in my view, in development programs and in growth environments. In shrinking budgets, they might not be the most affordable solution, and alternatives need to be looked at in detail.
- R4: In my view, the IPT is probably the most cohesive team approach to solving problems. The common challenges of budget reductions and need to maintain fleet readiness will not go away in the near term. [The participant provided examples of old operating norms whereby customer and contractors were building and reporting performance but issues or a program did not match. The individuals were told by senior leadership to get off the stage, work with their counterpart, and come back with a cohesive plan to execute a program, identify and mitigate program risks, and work together. There seemed to be instant resolution of

problems with mandated teamwork.] It takes time to create a culture of a common vision, but this is where we need to be consistent. The outcome is a product of teamwork, and the results are a move to better efficiency and quality. Through two data points is the recipe for common solutions.

- R5: True IPT relationships between industry and USG customers influence both the speed and quality of outcomes. The speed of trust between IPT members is necessary for a fully functional IPT. I believe IPT relationships have been key to ADC3 receiving sole-source support contracts over the past 20 years.

Analysis for interview question 5. The concept and deployment of integrated product teams (IPTs) has been described with many benefits to include cohesive focus on a common vision, mission, and issue resolution. It must be understood that IPTs do not just happen; they require formulation by leadership with clear guidelines and lines of authority. Guidelines must include a level of flexibility, empowerment, and expectation that teams will employ innovation and creative thinking to find better ways to support customers, mitigate risk, and work around issues. Trust needs to start with all stakeholders, with leadership as an example to all teams. There must be an expectation and accounting of time to build this trust. An evaluation of when to deploy an IPT needs to be considered along with determination of lead or co-lead philosophy in guidelines. Generally, IPT relationships between private and public industry influence both the speed and quality of outcomes, and trust is a key to a successful performance-based business environment.

Interview question 14 asked: What do you see as the top three enablers to a collaborative organizational environment that will drive positive organizational culture? Participants responded as follows:

- R1: Champions, common perceptions on business case analysis and other key management processes, focus on war-War fighter-driven outcome metrics.
- R2: [The participant described a personally developed model: the 5 *W*s are workforce, workplace, work tools, work processes, war fighter (customer). He described the first four as the cornerstones, with the customer being in the middle of the model (see Figure 1). It takes multi-skilled people and all 5 *W*s to achieve performance outcomes.

Workforce		Workplace
	Warfighter (Customer)	
Work Tools		Work Processes

Figure 1. The 5 *W*s.

- R3: Customer knowledge and focus. Delivering on promises. Flexibility in a dynamic funding environment.
- R4: Trust. Creating a relationship with your customer with consistency of action. It takes the right personality and ability to create a relationship; not all people can pull this off. It takes a genuine person to do this. It is a two way street for two leaders with a common vision. [Participant told stories of when things went well

and not so well when referring to government counterparts at ADC2. When there was a common vision, things went well. A follow-up question was asked: can personality and ability to create relationships be learned?] It can to a degree be mimicked, but it must be natural and genuine. If the customer feels it is not, we are worse off.

- R5: Top 3 enablers to a collaborative organization environment are mutual respect, trust, and clear vision and goals. To drive a positive culture the organization needs to perform, and in this environment technical competence is a must.

Analysis for interview question 14. The respondents generally felt that there are more than three top enablers to a collaborative organizational environment. The single theme and enabler that will drive positive organizational culture that seems to trump all the others is trust. There was much discussion on the need for building this trust through natural and genuine interactions with the right chemistry for the business environment. This may be a subject for further study: aligning personalities in the IPT environment. One participant provided a personal model that this researcher believes to be relevant to the performance-based business environment and in the right people (workforce), executing with common processes, with technology enhanced tools, in the right organizational environment (workplace) to deliver what is needed, when it is needed, where it is needed to the warfighter. A common vision, mission, and goals; customer knowledge and intimacy; senior level champions providing leadership and guidance; and technical competence are all enablers for a collaborative and positive culture in the performance-based business environment.

Interview question 15 asked: What motivates employees and teams most in a performance-based business environment? Participants responded as follows:

- R1: Customer success (mission accomplishment); empowerment; trace/Mission Accomplishment; Empowerment; Traceable actions and activities toward accomplishment of goals and contract terms.
- R2: I always believed pride was the motivator. If an employee has it—as a person, as a team, where they work, their job or mission—and you have success, it breeds. With good sound leadership providing a vision of the future, the team knows someone is looking out for them and the organization. They feel safe with a sense of direction. Achieving success with a sense of trust amongst the team and who is leading it provides no better motivator. Leadership helping employees achieve their hopes and dreams—but also willing to let them go to pursue growth—is a motivator. When people are confronted with change, leaders can motivate by telling them why a change is coming and not leaving them in the dark. People will understand if there is open dialogue.
- R3: Supporting the warfighters and improving their ability to execute their mission.
- R4: Exposure: seeing the results of the services and products they provide in a positive manner. I remember seeing the many faces of my organization after a very important recovery of an aircraft—them seeing how their efforts affected the customer was simply amazing!
- R5: Providing the flexibility for employees and teams to innovate. A culture of continuous improvement cannot thrive without rewarding innovation. If you are

not re-inventing and moving forward, you're moving backward. Measurement of improvements after innovation provides added satisfaction.

Analysis for interview question 15. Motivation is personal and is looked at in many ways by many people. There was a general consensus—resulting from clarifying questions and follow-up with the participants—that sense of purpose is the prime motivator observed by these leaders from within the organization. Understanding the customer's role in national security, and the contributions employees make to helping warfighters fulfill their mission through sustainment and readiness, is the prime motivator for aerospace industry teams in a performance-based business environment. Teams believing in their leadership, knowing leaders will inform them of good and bad news, exposing them to real time situational awareness, and depending on them to act accordingly is a motivator and enabler for building trust. Employees and teams knowing they are empowered and have the flexibility to pursue innovative solutions to complex issues is a motivator. Not uncommon to most transformational organizations, knowing leadership is looking out for the team provides comfort. Consistent and fair rewards provide added satisfaction.

Interview question 16 asked: What else would you add that may impact individual, team, and cultural behavior in a performance-based business environment? Participants responded as follows:

- R1: Clarity of and commitment to purpose (persistence, stay the course).
- R2: A leader has to make hard decisions and should not be shy about telling people why. Sometimes we may have to get rid of people who cannot embrace this environment. It may sound harsh, but it may help the culture of the

organization. Ask the doers. Get people to believe in themselves and their team, then they can accomplish great things. We need to ensure people have a sense of being. A leader needs to look for this and act accordingly if that sense is not present. People need to understand the mission of the organization and work with leadership (accountability) to have all oars in the water and moving to the same rhythm to cross a finish line together. There is a difference between confidence and belief in getting a job done; there is a difference as a motivator. Help people understand what is the problem. Understand cause and effect (peel back the onion) to start developing the solution. Trust and passion are key to success.

- R3: I believe trust is a big factor through all of this since it is hard to have a partnership with each other if you don't trust each other. If you lose that trust, it takes a long time to get it back.
- R4: Rewards: the reward process throughout the industry, while considering a collaborative performance-based organization, needs to be closer to the individual and team when considering the proximity of the reward. [The respondent gave an example of a private company profit in which sharing was not personal or in close proximity to a specific team effort. The result was described as and the team and individuals having no sense of being rewarded.]
- It would be better to reward teams team of both government and private industry in the same manner (both sides of the equation) to instill a greater sense of accomplishment. There would be cultural implications and a sense that "what I do matters."

- R5: Maintain an extremely high awareness of customer needs and sensitivities. Ensure all team members (employees and managers) are aware of who their customers are and make extra efforts to build meaningful relationships with them.

Analysis for interview question 16. Communicating the mission of the end user, the warfighters and their successes and failures, is something that affects people. Pride as Americans is inherent in the majority of public and private aerospace employees. Many are former military. They understand their role and how their contribution as individuals and a team contributes to our national security. Leaders know this of their workforce and they leverage that passion while shaping the future of their organizations. Leaders enable organizations to develop a culture that is driven to deliver performance outcomes most critical to their respective customers. Teams execute flawlessly as a performance driven culture. Yet leaders understand that it is not enough to satisfy contractual requirements; in a performance-based business environment we must anticipate the customers' needs in an ever changing global and unstable world. Leaders must have the courage to provide clarity of commitment to their teams every day, the persistence to follow through, and conviction to stay the course. Open and honest communication between leaders and teams creates an environment of knowledge and focus on finding fast and accurate solutions to current and evolving customer needs. A performance-based business environment cannot operate any other way. This is the speed of trust that will help the organization emerge into a customer-focused culture operating in a collaborative performance-based environment.

Summary of LPI and Research Questions Results and Analysis

Results of the LPI and questionnaire are detailed in this chapter. As described by Creswell (2007), "For a case study, as in ethnography, analysis consists of making a detailed description of the case and its settings" (p. 163). The information compiled by the researcher was analyzed and reviewed for trends and patterns for the research study. Conclusions for the LPI and interview questions are identified in Chapter 5.

Chapter 5: Conclusions

Researchers have conducted many studies to determine methods for maintaining complex weapon systems while reducing costs significantly. According to Berkowitz et al. (2009), "the Department of Defense (DoD) initiated a long-term program to link performance to major system acquisition through a concept called performance-based logistics (PBL), which represents an integrated performance-based environment (PBE) for both acquisition and sustainment" (p. 256). For the purposes of this study, acquisition and sustainment programs refer to large-scale platforms such as aircraft. PBL is a process that employs and combines USG and Department of Defense Policy and public law with private industry business rules and best practices to create value in a relationship between public and private entities. This is important considering the current U.S. budget crisis and the U.S. military being called upon to deploy to multiple locations in efforts against terrorism and concurrently supporting humanitarian missions worldwide.

As stated in earlier chapters, little empirical data exist on leadership attributes that drive positive behavior in a performance-based business environment. In this chapter, a summary of research results, analysis, and conclusions based on those results of the study are presented. Conclusions relate to those leadership attributes of successful executives in a performance based business environment, the impact of leadership attributes on organizational culture and how that culture influences performance outcomes within the aerospace industry. This is followed by recommendations for both public and private industry utilizing or considering a performance-based contract structure and recommendations for additional research opportunities aligned with this study.

Re-statement of Problem

For the purpose of this study, it was assumed that both public and private aerospace industry understands there is value in performance-based contracts and they generally understand the complexities associated them. According to an acquisition specialist James Ott (2010), the U.S. DoD's decade-old drive to make effective product purchases and services transactions, for delivery of weapon platforms, subsystems and components—getting them to the right place on time and on budget—has reshaped government-industry relationships and is growing with militaries around the globe. PBL is the instrument for accomplishing this.

Enablers such as the type of contract (i.e., fixed price versus cost-plus), longer term, and incentives are also understood. What is not understood is what makes PBLs successful from a leadership perspective. The leadership attributes needed to execute a performance-based contract, the effects on organizational culture, and resultant outcomes were the focus of this study. Berkowitz et al. (2009) surmises there are no clear and universally acceptable studies that define the impact PBL has on organizational culture. Therefore, there is no clear understanding of the behavioral drivers that make PBL outcomes desirable. Hence, organizational culture behavior guidelines and the leadership behavior that drives that culture for PBL's are at best ad-hoc and incomplete. This topic was worth investigating to understand and provide recommendations for business and performance outcome success for both customers and contractors.

Research Questions

This study sought to (a) identify those leadership attributes that have proven successful in highly regarded PBL programs, as recognized by public and private industry, (b) determine what effect performance-based contracts have on organizational culture, and (c) identify what value is created as a result of that organization.

This research answered three main research questions:

1. What are the attributes necessary for leading in a performance-based business environment?
2. What impact does leadership attributes have on organizational development in an integrated product team culture?
3. How does organizational culture influence performance outcomes in a performance-based business environment?

Summary of Research

This study revealed the leadership attributes utilized by successful private aerospace industry executives that are necessary to transform organizational culture in a PBL environment, as well as the associated outcomes of a performance-based culture. Conceptual support through review of the related literature was necessary and is documented in Chapter 2 to support the study. The study utilized a case study method described in Chapter 3 to identify effective leadership attributes for delivering outstanding performance characteristics recognized by the DoD. Regarding a qualitative case study, Miller and Salkind (2002) offer, "The researcher seeks to develop an in-depth understanding of the case(s) through collecting multiple forms of data" (p. 163). The multiple forms of data set for this study includes the results of a Leadership Practices

Inventory (LPI) assessment and formal interviews of five senior leaders from three major private aerospace companies actively involved in a performance-based business environment.

Performance-based contracting is recognized as a successful strategy for a weapon system support. Miller (2008) identified "performance-based logistics, a strategy for making sure warfighters have the equipment they need when they need it, works" (p. 28). He went on to say, government, industry, and academic studies show PBL contracts regularly improve availability 20% to 40% and reduce costs by 15% to 20%" (p. 28). This was recently supported by a DoD-funded study referred to as *Proof Points*, which has yet to release documents as of this date (Deloitte Consulting, in press).

The results of this study are documented in Chapter 4 with analysis of responses of successful executive leaders in the aerospace performance-based business environment. By reviewing the findings from the LPI assessment and interviews of executive leaders, current and aspiring leaders in the performance-based business environment can evaluate those strengths identified by participants who have proven successful in their respective business and work to mirror participants' leadership style. Table 1 provides the relationship between each of the three research questions (RQ 1-3), the LPI assessment, and the interview questions. A process to protect human subjects was completed for this research effort. In addition, the instruments used for this study were validated and deemed reliable.

The LPI and in-depth interviews allowed the researcher to understand the individual leader experience, lessons learned along their career journey, and key leadership attributes that can be used by future leaders seeking to enter the performance-

based business environment. The results of the LPI and formal interviews are presented in three sections in this chapter and aligned to the three research questions identified for this study.

Summary of Analysis for Research Question 1

Research question 1 asked: What are the attributes necessary for leading in a performance-based business environment? Data sources for this question were divided into two distinct parts. The first part is the dissemination, administration, collection, and documentation of the Leadership Practices Inventory (LPI) assessment by Kouzes and Posner (1988). The LPI assessment instrument was administered by the researcher to five senior executive leaders with the results and analysis identified in Chapter 4. Data points were gathered utilizing the LPI assessment with results compiled using Kouzes and Posner's Leadership Practices Inventory, analyzed using LPI Translations (2008) software (see Appendix D & Appendix E). As an addition to this survey segment, the researcher felt it would be interesting to ask each of the five executive participants to prioritize each of the *five practices of exemplary leadership* while considering their management style. The emphasis of this assessment was to determine how successful leaders in a performance-based business environment inspire, engage, and develop a business organization's top talent to meet whatever leadership challenges lie ahead. The five practices model concludes that leaders understand that leadership is a relationship, and they engage in the Five Practices of Exemplary Leadership®: model the way, inspire a shared vision, challenge the process, enable others to act, and encourage the heart. Thus they are better able to embark on a career of success and significance. The

researcher believes this is significant as the instrument package approaches leadership as a measurable, learnable, and teachable set of behaviors.

The second part was the same participants' involvement in formal interviews to obtain responses to specific questions related to research question 1. The questions (Appendix F) are categorized into three sections (A-C). Interview questions identified in Section A and B of Appendix F for RQ1 contribute to the identification of leadership attributes that each participant felt was critical as a leader in a high profile and successful performance-based business environment. Section A asks for background, leader's role, and information related to the participant's leadership style. Interview questions 1 and 6 relate to RQ1. Section B provides behavioral questions that relate to the leaders' ability to identify with organizational and cultural issues currently facing the performance-based business environment they support. Interview questions 9 through 11 also relate to RQ1.

Part 1: LPI assessment summary of analysis for RQ1. Each of the scores was compiled and tabulated for evaluation. Although the overall sample size of the executive leaders was small and thus it was difficult to interpret results with a high degree of statistical relevance, the researcher considers the results of practical importance. The standard deviation indicates the extent of agreement among the individual leaders. Observations amongst the leaders were fairly consistent for the leadership practices of model the way, challenge the process, and enable others to act. The standard deviation and range were higher for inspiring a shared vision and encouraging the heart. The compilation of data indicates that for the five executives, there is consistent alignment on most of the categories of the LPI—with the exception of model the way with lower

aggregate variance—and was low on the range. Clearly, the highest aggregate total score for the five LPI attributes is enable others to act.

These responses somewhat aligned to the priorities established by the executive leaders in Table 4, which were made before responding to the formal LPI assessment. The responses indicated a high degree of priority for inspiring a shared vision and enabling others to act; medium degree of priority for encouraging the heart and modeling the way; and lower degree of priority for challenging the process.

The researcher further analyzed each of the five executive respondents' LPI questionnaires to determine what characteristics and trends were common amongst these successful leaders. Respondent scores (highest deemed most favorable) were documented in Table 2. The top five priorities resulting from the 30-question LPI assessment are these:

1. Treating others with dignity and respect
2. Setting personal examples
3. Following through on promises and commitments
4. Giving people freedom to do their work
5. Keeping current on events that may affect the organization

Part 2: Interview summary of analysis for RQ1. The five executive leaders were consistent in themes related to leadership attributes in a performance-based business environment. It was made clear by leaders interviewed that this business environment is not one that is transactional in nature and the expected outcomes from the men and women who operate and maintain these major weapons systems have a significant stake in a contractor's performance. In fact, many times their lives may depend on it.

The executive leaders and participants that were interviewed had over 160 years of professional experience in aerospace with just over 6 decades of longevity in a performance-based business environment. They were pioneers and subject matter experts in their field. The general themes and patterns in identifying leadership attributes included need for:

- A shared vision and belief in that vision by the entire enterprise
- Clear and unassuming leadership direction
- Putting the customer first and establishing intimate knowledge of needs
- Courage to focus on right outcomes (doing the right things)
- Pioneering change
- Personal accountability demonstrated at customer and enterprise level

(These attributes noted above are included in Table 4 and color coded to show alignment to the LPI attributes identified by respondent leaders.)

These leaders recognize the challenges between public and private organizations in life cycle systems sustainment and the severe implications both from a private contractor view and more importantly from a customer point of view. The top challenges cited by the executive leader respondents include:

- Dealing with declining and unstable budget
- Balance of performance to affordable levels
- Trust and common vision
- Collaborative organization culture and alignment
- Perception of competition and threat of job loss

- Role of product support manager: responsibility, accountability, authority
- Ensuring that all stakeholders believe PBL offers best value

These challenges were determined as a common theme amongst the interview respondents with demonstrated attributes identified and exercised by these leaders to overcome challenges on highly successful performance-based logistics programs. These respondents, as executive leaders, have emphasized and demonstrated a full situational awareness of the business environment affecting their business. Understanding of the fiscal, legislative, technical, and overarching needs of the end user is paramount. These leaders realize that they face multiple customers and stakeholders in their day-to-day operations. There are challenges that are unique to customers such as need to seek affordability, competition, core workload, need to grow, and retain program and technical knowledge. There are challenges that are unique to private industry such as need for reasonable profits, longer term contracts to project investments that ultimately benefit the customer, and maintaining a reputation for best value solutions to meet the needs of the aging weapon system. Respondent 2 stated, "Things can breakdown walls, but it may take a burning platform, such as declining DoD budget, to lower the bridge [establish dialogue] for positive constructive change. End solutions cannot be winner-take-all. We need a collaborative environment that utilizes combined program direction and best practices." The challenges listed above were identified as common challenges of the aerospace industry that can only be fully resolved through joint leadership champions of performance-based contracts. The general consensus is formalization and acceptance of PBL would help the overarching collaborative basis of trust. All stakeholders believe PBL offers the best value.

Conclusions for Research Question 1

Regarding what leadership attributes are necessary for leading in a performance-based business environment, the results and analysis are documented in Chapter 4 with conclusions provided in Table 4. These conclusions reflect those attributes deemed most valuable by senior executives that are proven in the aerospace industry in leading a performance-based business environment with specific underlying attributes identified from the 30 LPI questions available.

Table 4

LPI Top Ranked Leadership Attributes by Executive Leaders

Modeling the Way (G)	Inspiring a Shared Vision (Y)	Challenging the Process (R)	Enabling Others to Act (B)	Encouraging the heart (O)	Interview Priority
Sets a personal example of what is expected of others (1)	Upbeat and positive-paints "big picture" of group aspirations (22)	Searches outside the organization for innovative ways to improve (13)	Treats others with dignity and respect (14)	Express confidence in people's abilities (10)	Shared vision (y)
Follows through on promises and commitments (11)		Asks "what can we learn" from the experience (18)	Gives people choice about how they do their work (24)	Recognize people for commitment to shared values (20)	Clear leadership direction (g)
Builds consensus around organization's values (21)			Develops cooperative rather than competitive relationships among people (4)	Creatively rewards people for their contributions (15)	Customer first (b)
			Actively listens to diverse points of view (9)		Courage to focus on outcomes (o)
					Pioneering change (r)
					Personal accountability (g)

The highest rated attributes, resulting from the five executive respondents and included in Table 4 are (a) treating others with dignity and respect; (b) giving others a great deal of freedom and choice in deciding how to do their work (aligned to enabling

others to act); and (c) following through on the promises and commitments made in the organization, aligned with modeling the way. This was no surprise considering the different culture between a transactional versus a transformational or performance-based business environment and the cultural climate surrounding these leaders. According to Goleman (2000), climate refers to six key factors that influence an organization's working environment: (a) its flexibility (employees' freedom to innovate), (b) employees' sense of responsibility to the organization, (c) the level of standards that people set, (d) the sense of accuracy about performance feedback and aptness of rewards, (e) the clarity people have about mission and values, (f) and the level of "commitment to a common purpose" (p. 131). Leaders in a performance-based business environment recognize that treating people with dignity and respect is a two way street. The collaborative nature of relationships between public and private entities demands that people work together to accomplish objectives that lives depend on. The feeling of dignity and respect breeds pride in an organization and its culture, freedom of choice breeds innovation, and follow through breeds trust amongst customers. Promises kept in an organization from its leaders breed loyalty and contagious commitment. These are the key attributes and descriptions from leaders that have lived through challenges and prevailed to deliver what the customer values most. Each of the six leadership attributes identified as priorities from the formal interviews are color coded in Table 4 to show alignment with the LPI attributes. It is concluded that the priorities established by the executive leaders interviewed demonstrated that all five attributes noted in the LPI apply to a performance-based culture.

Placing the customer first and establishing intimate knowledge of needs are attributes noted by four of the five senior leaders as compelling and not measurable on any equivalent scales that they have experienced. Covey (2004) would describe this as thinking with the end in mind. Taking into account all stakeholders of a major weapon systems life cycle is critical to the success of any program. These stakeholders include the legislative, acquisition, operators/warfighters, and associated oversight organizations. Recognizing and fully understanding the challenges between public and private organizations throughout the life cycle and the severe implications to the overarching program will make or break a performance-based contract. The art of balancing all the demands and most important requirements from these stakeholders is critical and requires a transformational organizational culture. Kouzes and Posner (2002) state, "Transformational leadership occurs when, in their interactions, people raise one another to higher levels of motivation and morality" (p. 153). Transformational leadership provides the members of IPTs with greater communication about expectations and couples the identities of the followers to the collective identity of the collaborative organization.

Dealing with declining and unstable budget realities is a challenge that must be addressed as a partnership to find solutions to balance performance to affordable levels and keep our military ready to fulfill its intended mission in defense of our nation. Trust to build these relationships is first and foremost a priority. As stated by Respondent 4, "trust at its nucleus…each attribute in a leader's toolbox needs to evolve around trust." He went on to say, "Performance-based business environments are not about micro management; it is an environment that is outcome-centric. Customers must trust that a

private contractor is not taking a short term road for short term gain. It must be understood that the contractor is doing what is right for the customer."

The five executive leaders demonstrated multiple leadership styles that aligned with Goleman's (2000) leadership styles associated with emotional intelligence. The six styles of leadership that Goleman's team examined in detail were: (a) coercive—demands immediate compliance, (b) authoritative—mobilizes people toward a vision, (c) affiliative—creates emotional bonds and harmony, (d) democratic—builds consensus through participation, (e) pacesetting—expects excellence and self-direction, and (f) coaching—develops people for the future. Goleman reported that four of the six leadership styles are used more consistently and have a positive effect on climate and results. What was deduced from interviews and discussion with these five executive leaders is they are successful in withstanding the test of time and the evolution (life cycle stages) of the weapon systems by changing course (however minor) to ensure the organization was not stagnant or perceived as complacent as a program evolves from development, testing, acquisition, production, to concurrent sustainment. Goleman (2000) identifies that the most effective leaders switch flexibility among leadership styles as needed. Research indicates that no style should be relied on exclusively, and all have at least short term uses. The leaders involved in this study have mastered the understanding of situational awareness required for a successful program. These leaders all agree that for private leaders to succeed, they must have the right organization with the right culture to focus on the end user and delivering results while providing best value to the acquisition stakeholders. There is no clear definition of what best value really

means, but the dialogue between leaders in public and private industry is needed to strike that balance together.

Summary of Analysis for Research Question 2

Research question 2 asked: What impact does leadership attributes have on organizational development in an Integrated Product Team (IPT) culture? Interview questions identified in Appendix F for RQ2 contribute to the identification of how those leadership attributes affect the development of the organization in a collaborative performance-based culture of high profile and successful PBL programs.

First, the interview participants were asked to define what culture means to them in a performance-based business environment. From the detailed responses included in Chapter 4, this list is a summary:

- It is essential to determine if the culture of an organization is input/output-focused, outcome-focused, or enterprise-focused. Only in the last two organizational cultures does PBL flourish. A cultural environment of collaboration, working together with the customer, with a shared vision includes all people and demonstrates empowerment. Empowering people to measure themselves through the right metrics requires discipline and takes a whole series of steps.
- Part of the hard reality of leadership is ensuring the right people are involved during the multiple phases of the weapon systems life cycle and changing environments with customers.

- The organization's people must have the right focus and mindset for the foundation: trust building with the customer over time and maintaining partnerships with the customer.

The actions identified by the five executive leaders resulting from those critical attributes essential in a performance-based business environment were identified in this study and ultimately evolve into key enablers for both public and private industry organizations operating in a collaborative organizational environment. These leadership attributes influence the organization by providing:

1. Fundamental tools (people, processes, training, safe work environment, etc.) with knowledge to help the USG shape a contractual framework providing agility and flexibility
2. Strong leadership at all levels and fully aligned, providing clear expectations
3. Stability in organization: collaborative and trusting working relationship
4. Culture of empowerment and innovation that creates and promotes creativity
5. Creation of common definition of term *better buying power* while balancing cost and performance with warfighter needs in mind
6. Customer-focused culture

Conclusions for Research Question 2

As a leader nurtures culture through select leadership attributes, there is a cause and effect. The respondents stated empowerment (cause) leads to innovation and improved efficiencies in the life cycle sustainment of the products they support. The performance outcomes and cost savings (effect) become recognized by the customer as world class or outstanding. The leadership attributes breed the right people with the right

attitude, focused on the success of a common mission. The organization is aligned, including leaders at all levels with people who understand what is expected of them. Further, those people feel compelled to build customer intimacy, find innovative ways to solve current and evolving problems, and take on the behaviors of their leaders in developing partnerships and placing customers first. This breeds trust amongst the organization and with customers.

There is a common theme related to a need for flexibility in performance of assigned tasks for public industry. It is a conclusion of this study that flexibility is a result of a performance-based culture that incentivizes contractors to perform better, faster, and cheaper in a fixed contract environment. Those incentives are recognized by the senior leader who in turn empowers employees to find better ways of doing business, rewards them, and keeps the door open to innovation. The leaders quickly identified these aspects as crucial: arming teams with the right people, processes, and tools to perform their jobs. With the added flexibility of the employees, a consistent and continuous improvement cycle evolves. The actual performance-based contract construct enables efficient and effective execution of the program efforts, providing benefits to the customers and the contractor.

Some contributing attributes that affect the leader's ability to influence organizational culture are identified in Table 4. The leader's longevity depends on understanding a performance-based business and a conscious belief or awareness that their leadership attributes directly affect organizational development. They are fully aware of what tools in their leadership toolbox work for the job at hand, know and understand the barriers and obstacles in front of them, and see them as opportunities.

They also demonstrate belief in IPTs and the collaborative environment as a means of supporting and enabling the customer and contractor to achieve the common vision, mission, and goals. As implied earlier, respondents to the assessment emphasized leaders must have the courage to make adjustments in personnel if the right attitude does not exist for the collaborative environment. It is clear the people performing in their respective IPT role are motivated from this courage and action by leadership.

Summary of Analysis for Research Question 3

Research question 3 asked: How does organizational culture influence performance outcomes? Interview questions identified in Table 1 for RQ3 contribute to the identification of significant performance outcomes critical to high profile and successful performance-based programs and platforms. Results were analyzed and synthesized. Conclusions with recommendations are documented in this chapter.

The first interview question related to this research question queried the executive participants about defining a successful program. The results reflected an environment whereby the customer was advertising the benefits of the performance-based arrangement emphasizing balanced performance and cost. Respondent 3 defined a success as "lower cost over time with increasing or stable readiness while providing adequate business returns for industry so investments can be made to achieve continuous improvement." The continued theme of understanding a customer's most important requirements and balancing the most critical elements of performance needs against overarching user mission with budget, policy, and other requirements is essential to for all stakeholders and may very well define *best value*. Knowing leadership protocol and establishing a collaborative IPT environment breeds trust. There is a strong belief in IPTs among

participants of this study, but there are also questions about viability at various points in the weapon systems life cycle where IPTs may or may not be effective. Although Respondent 3 stated IPTs are "sometimes overdone and are most useful in development programs and growth environments," the general consensus amongst the respondents was that IPTs drive a collaborative team environment and revolve around trust. Respondent 4 stated, "trust is creating a relationship with your customer with consistency of action. . . . it's a two way street." Other enablers for a collaborative and positive culture in the performance-based business environment are a common vision, mission, and goals; customer knowledge and intimacy; senior level champions providing leadership and guidance; technical competence. The general theme for individual and team motivation is being driven by the pride in knowing that their job and the performance outcomes are the driver to ensure the warfighters operating the weapon systems are fulfilling their mission when private industry delivers on commitments. Motivation is personal, and it is looked at by many people in different ways. A sense of purpose is the primary motivator. Having flexibility to perform and exercising creativity drives performance outcomes.

Conclusions for Research Question 3

Organizational culture in a successful performance-based business environment delivers performance outcomes that meet or exceed requirements and posture for anticipated needs. Performance outcomes are influenced by incentives built into a contract. These incentives and contracts establish a strategy that focuses on customers' needed capabilities and identify what is needed, but not how to accomplish the effort. This allows for contractors to (a) investigate best commercial practices that are readily available or require some modification, or to (b) develop innovative new processes to

meet or exceed customer demands. Leadership enables the organization through those attributes identified in conclusions for RQ1 and the effects on organizational culture identified in conclusions for RQ2. Tables 5 and 6 identified that organizational culture in a performance-based business environment demonstrates that cost savings are equal to performance as organization outcome. This balance is more favorable to a program considering a focus on cost-over-performance or performance-over-cost. This validates the notion of multiple customer stakeholders and the need by senior leaders to satisfy these multiple customers' most important requirements. Balance and flexibility to dial up or down performance, based on priority of levels of mission capability and availability of budget, is essential. It is not easy to manage and demands a close relationship between public and private leaders. This requirement for flexibility is certainly a balancing act that will continue to challenge public and private relationships. A question of what motivates the organization to deliver outcomes raised some interesting points. The conclusion is that a performance-based culture is one that has the customer at the forefront of their daily tasks. As noted in Table 6, three of the five executive leaders believe motivation is driven by employees being able to understand the result of what they do and how those performance outcomes support the warfighter mission is more important than monetary incentives for employees. The other two participants emphasized as motivators the critical attributes in a performance-based business environment as key enablers for both public and private industry organizations operating in a collaborative organizational environment.

Table 5

Coding System for Research Question 1: Leadership Attributes' Effect on Organization Culture in a Performance-based Environment

Response Category	Exec Leader Respondent				
	R1	R2	R3	R4	R5
Leaders has longevity in understanding performance-based business (Q1)	X	X		X	X
Belief leadership attributes directly effect organization development (Q6)	X	X	X	X	X
Barriers/obstacles fully understood and seen as opportunities (Qs: 9-11)			X	X	X
Belief in IPT/collaborative environment (Q5)	X			X	X

Table 6

Coding System for Research Question 2: Organization Culture Influence on Outcomes in a Performance-based Business Environment

Response Category	Exec Leader Respondent				
	R1	R2	R3	R4	R5
Performance outcomes seen as more important than cost savings	X				
Cost savings seen as more important than performance					X
Cost savings seen as equal to performance		X	X	X	
Motivation seen as performance outcomes versus monetary for employees		X		X	X

The benefits of only documenting desired capabilities in a performance work statement (versus detailing *how* a private contractor should deliver a capability with the associated integration with product or service) allow the USG to focus spending power on essential skill sets and support to mission requirements. It avoids the heavy overhead lug that traditionally went along with major life cycle sustainment acquisitions. This creates the opportunity for future research to determine cost benefit analysis for the truly efficient balance of workload in collaborations between public and private entities.

This research supports the belief and concludes that organizations working together in a collaborative IPT environment have substantial benefits leading to cost reduction, reduced risk, and optimized fleet war readiness for U.S. military. Respondent 4 stated, "…the IPT is probably the most cohesive team approach to solving problems." Information in Figure 2 provides an example of a C-17 transport aircraft that has achieved the highest mission-capable metrics compared to other aircraft, while reducing costs by approximately 15% over a 10-year period. All other equivalent platforms experienced higher costs as the program matured. That exemplary program performed under a PBL contract while the others did not.

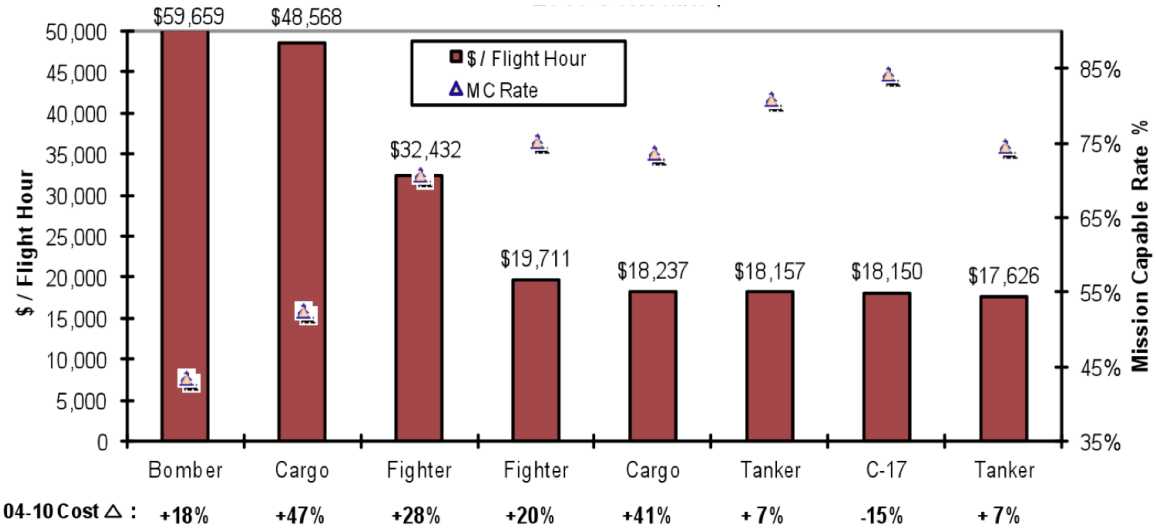

Figure 2. U.S. Air Force total sustainment CPFH comparison. Total sustainment costs (all CAIG elements). Adapted from *Contractor Logistics Support in the U.S. Air Force* by Aerospace Industries Association, 2011. Retrieved from www.rand.org/pubs /monographs/2011/RAND_MG779.pdf, p. 67. Reprinted with permission of the author.

Data show that working in a collaborative IPT environment, focused on performance outcomes works. It was identified by Respondent 1 that there is no viable alternative for IPTs, though "IPTs must be empowered and guided by serious, persevering leadership expectations." These collaborations lead to information sharing

that creates greater logistics planning, supply chain asset visibility, and overall responsiveness to operational customer needs.

There is little research that describes how to form these relationships or the leadership attributes necessary to shape organizational culture to operate effectively in this environment. For the leader of an integrated product team, there is no recipe for shaping a cross-cultural team consisting of public and private individual members to develop them into a highly effective organization utilizing a PBL. Research question 1 identifies those attributes that should prove effective in responding to research question 2, which identifies what effect those leadership attributes have on organizational culture. This research question was designed to investigate how a deliberately developed IPT influences performance outcomes.

This researcher believes that this study is meaningful for leaders interested in determining how to best establish collaborative organizational culture and capture the inherent benefits of a performance-based culture. To establish and benefit from this culture, this study sought to identify those leadership attributes that have proven successful in highly regarded performance-based logistics programs, as recognized by public and private industry. In addition, this study sought to determine what effect performance-based contracts have on organizational culture and identify what value is created as a result of that performance-based culture.

Implications and Recommendations for the Aerospace Industry

By understanding the results, analysis, and conclusions of the completed study, current and aspiring leaders can focus on learning and aligning their actions in self development in strengthening their leadership style. There is no secret or easy fix to

ensure success in the current and evolving performance-based contracts and business environment. Yet, greater success can be attained by understanding those key leadership attributes identified in Table 4, studying them, and realizing that these attributes can be learned and applied to organizations charged with supporting major weapons systems and sustainment acquisition efforts. These approaches are tried and described as effective by the top proven senior leaders in the performance-based business arena. These attributes, when applied, can help shape the organizational culture that will execute requirements, gain efficiencies, and demonstrate a customer-facing organization that is essential to support our national defense by providing performance-based outcomes. There must be a collective understanding that performance-based contracts work. The preponderance of evidence documented by Boyce and Banghart (2012) state, "Longer-term contracts that provide assured revenue streams and contain well-crafted cost and performance incentives drive predictably positive outcomes for the services" (p. 29).

There were several common issues identified by respondents. Respondent 2 stated, "there is a difference between confidence and belief in getting the job done. There is a difference as a motivator. Help people understand what is the problem, understand the cause and effect (peel back the onion) to now start developing the solution." The implications are profound, considering that a successful performance-based business arrangement will help (certainly not hurt) the better buying power that is required to address budget shortfalls in defense, thus keeping our military forces ready to respond to combatant commander needs in the war on terror or the cry for humanitarian support globally.

Recommendations for Further Research

1. Organizational mergers: The collaboration of two organizational cultures into an integrated product team environment is something that will not happen without careful planning and leadership intervention. Research to determine organizational influence for a successful cross cultural merger between two organizations resulting from a collaborative, performance-based business environment should be the subject of future studies.
2. Integrated product teams (IPTs): The study of IPTs should be researched to determine at what point in the weapon system life cycle they are most effective. There are suggestions by participants of this study that indicate IPTs are best deployed during the development and growth environments. In addition, one respondent thought that their utility may not support the cost of operating in such an environment considering shrinking program budgets.
3. U.S. aerospace industrial base: The balance of public and private industrial base capabilities should be evaluated to maximize national efficiencies considering budget, capability, and future needs. Public law outlines potential for allocating 50% of service acquisitions to private contractors, authorizing billions of dollars to performance-based business contracts. Considering current legislation, this allows public administration to focus on what areas have been deemed inherently necessary as government efforts and oversight of performance outcomes, rather than detailed watchdog efforts to ensure government specifications are complied with and aligned to transactional type business arrangements. The opportunity for collaborative working environments focused on core competencies of each

industrial base could create organizational benefits to strengthen the national industrial base by reducing redundancies and creating efficiencies if 50/50 balance is adjusted.

4. Knowledge management: Many of the premier aerospace conferences that are attended by both public and private industry leaders addressing key issues and interests such as legislative, policy, technical, and fleet readiness matters are being populated and attended by more mature people over the age of 45. The aerospace industry and people who lead it are approaching retirement, and there is a need to ensure we prepare the next generation of life cycle sustainment leaders. The demographics should be studied to ensure incentives are in place for the next generation of aerospace leaders to gain leadership capability within the aerospace industry.
5. Global partnerships between private and public entities: Relationships globally should be studied to position U.S. industry for global infrastructure build up. One example is the commitment by India to develop its industrial base, roads, and transportation capacity. Japan has won competitive bids for metro systems in India's major cities. There are billions if not trillions of dollars to help address issues, challenges, and great opportunities for India with projected 6% to 8% in economic growth. Utilizing performance-based contracts and business knowledge could position U.S.-based companies that are significantly lagging behind other countries that are in tune with coalition governments around the world. This collaboration for generational change with remarkable demographics

of young people in the growth revolution is uncharted territory with unlimited possibility.

6. Organizational culture: As was discussed in the analysis for interview question 14, the respondents generally felt that the single theme and enabler that will drive positive organizational culture—and that seems to trump all the others—is trust. There was much discussion on the need for building this trust through natural and genuine interactions with the right chemistry for the business environment. A fruitful topic for further study would be aligning personalities in the IPT environment. One participant provided a personal model (Figure 1) that may be relevant to the performance-based business environment and in the right people (workforce), executing with common processes, with technology enhanced tools, in the right organizational environment (workplace) to deliver what is needed, when it is needed, where it is needed to the warfighter.

Concluding Thoughts

This statement from George F. Will on January 1986 still holds true in 2012: Right now, somewhere around the world, young men and women are landing high-performance jet aircraft on pitching decks of aircraft carriers, at night. You can't pay people to do that; they do it out of love of country, of adventure, of the challenge. We all benefit from it, and the very fact that we don't have to think about it tells you how superbly they're doing their job, living on the edge of danger so the rest of us need not think about, let alone experience danger. (Navy Safe Harbor Foundation, 2011, para. 1)

The research for this study was both rich and rewarding. Identifying the top leadership in private aerospace industry corporate offices was pleasant, considering that five out of six executive leaders in performance-based contracts welcomed the opportunity to contribute to the study, although one cited potential risk of unfavorable media attraction as a drawback. All the senior leaders were eloquent and approachable. Students or researchers of future studies should not hesitate to ask for the highest meaningful participation, or they may risk missing a great contribution to research studies. It was very hard to maintain a solid plan for face-to-face interviews, because of the complexity involved in arranging interviews around the schedules of executives with great time-constraints in their schedules. Yet persistence paid off, and sitting down with these leaders was a great experience. It was a mentoring session in addition to a research goal, and this researcher feels it is meaningful to share this study with all those who choose to gain from this study. The triangulation approach to documenting interview responses and aligning to research questions was effective and reflected in the interview responses, leading to valuable conclusions.

Recognizing the right leadership attributes, applying them to shape the organizational culture, and focusing on the customers' most important requirements will enable current and future leaders to achieve the performance outcomes most valued by the customers. The research concluded with those leadership attributes deemed most utilized by senior leaders that have demonstrated success in a performance-based business environment. These results align with Ulrich et al.'s (2008) strongest argument that leadership attributes should be tied to results. A leader's job requires character, knowledge, and action, and should demand results. This means explicitly focusing on

desired results and linking specific attributes to those results. Ulrich et al. (2008) concluded that attention to leadership results will repay its costs in time and effort many times over in raising the overall quality and effectiveness of a company's leaders. Such attention will also refine and refocus leadership attributes in ways that ensures that they deliver value.

What is eye opening is the realization, once shared by leadership and understood by the employees, that lives depend on their work motivates and instills a sense of excellence in what they do. Many of the leaders interviewed shared sports analogies to describe integrated product team (IPT) collaboration and the importance of pulling together for the greater good of the organization. In their book, Wooden and Carty (2005) phrase it well when talking about teams and team spirit: "Team spirit is the ultimate expression of independence. Just as team spirit embraces an element of enthusiasm, it also houses a component of cooperation. But where cooperation makes others better, team spirit makes the group better" (p. 78). Like the performance-based leaders interviewed in this research study, they believe in team spirit as the foundation of the IPT. Their recipe for success is a clear vision, guidelines (processes, metrics, and tools), with the constant challenge to change the status quo. These leaders empower employees to develop intimate relationships with all stakeholders and encourage innovation. They believe in the right level of meaningful rewards for results and allow individuals to be accountable for their efforts. They foster cooperation and look to celebrate wins. These leaders have the courage to lead effectively and create an atmosphere of pride in recognizing that in this line of work, the men and women who fly and maintain these weapons systems depend on them, sometimes with their lives.

The trends detected in this research study of highly successful leaders in the field of a performance-based business environment should be studied and learned from. Miller (2008) was wise in his ascertainment that "responsible leaders will get ahead of the trends, recognize the coming burning platform, and move now to prepare their organizations for the new reality" (p. 28).

In the aerospace business, contractors must recognize that the world is changing, the threat to U.S. national security has not diminished, and the need to keep weapon systems in peak condition is what translates into warfighter terms for total mission capability. It takes the right leaders, the right organization, and the right culture to balance affordable readiness to keep the U.S. defense capability strong. Lives depend on it. The time and challenge for a ready, affordable, and capable force to defend our national interests is now. A performance-based organizational culture is the right solution, at the right time to meet the demands of a budget constrained global force with a continued thirst for readiness in supporting our nation. Schein (1992) states, "If leaders do not become conscious of the cultures in which they are embedded, those cultures will manage them" (p. 144). Executive leadership must maintain awareness of what actions they can take in order to understand and be a part of transition while avoiding negative cultural implications. In order to foster a harmonious marriage between leadership and organizational culture, it is essential that leaders recognize and address cultural factors both before and during the IPT formation.

The limited literature available in both USG (public) and private industry in this area of interest makes this research study relevant, timely, and valuable. The intent of this researcher is to utilize findings of this study for further examination or exploration

and share those findings with others that maintain an interest in performance-based logistics. In addition, findings from this research may contribute toward dissertation topics for other doctoral students.

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APPENDIX A

IRB Exemption Approval

PEPPERDINE UNIVERSITY

Graduate & Professional Schools Institutional Review Board

March 23, 2012

[redacted]

Protocol #: E0312D02
Project Title: ***Leadership Effects on Organizational Culture in a Performance Based Business Environment***

Dear Mr. Gomez:

Thank you for submitting the revisions requested by Pepperdine University's Graduate and Professional Schools IRB (GPS IRB) for your study, *Leadership Effects on Organizational Culture in a Performance Based Business Environment.* The IRB has reviewed your revisions and found them acceptable. You may proceed with your study. The IRB has determined that the above entitled project meets the requirements for exemption under the federal regulations 45 CFR 46 - http://www.nihtraining.com/ohsrsite/guidelines/45cfr46.html that govern the protections of human subjects. Specifically, section 45 CFR 46.101(b)(2) states:

> (b) Unless otherwise required by Department or Agency heads, research activities in which the only involvement of human subjects will be in one or more of the following categories are exempt from this policy:
>
> **Category (2) of 45 CFR 46.101**, research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: a) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and b) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

In addition, your application to waive documentation of consent, as indicated in your **Application for Waiver or Alteration of Informed Consent Procedures** form has been **approved.**

Your research must be conducted according to the proposal that was submitted to the IRB. If changes to the approved protocol occur, a revised protocol must be reviewed and approved by the IRB before implementation. For any proposed changes in your research protocol, please submit a **Request for Modification Form** to the GPS IRB. Because your study falls under exemption, there is no requirement for continuing IRB review of your project. Please be aware that changes to your protocol may prevent the research from qualifying for exemption from 45 CFR 46.101 and require submission of a new IRB application or other materials to the GPS IRB.

A goal of the IRB is to prevent negative occurrences during any research study. However, despite our best intent, unforeseen circumstances or events may arise during the research. If an unexpected situation or adverse event happens during your investigation, please notify the GPS IRB as soon as possible. We will ask for a complete explanation of the event and your response. Other actions also may be required depending on the nature of the event. Details regarding the timeframe in which adverse events must be reported to the GPS IRB and the appropriate form to be used to report this information can be found in the *Pepperdine University Protection of Human Participants in Research: Policies and Procedures Manual* (see link to "policy material" at http://www.pepperdine.edu/irb/graduate/).

Please refer to the protocol number denoted above in all further communication or correspondence related to this approval. Should you have additional questions, please contact me. On behalf of the GPS IRB, I wish you success in this scholarly pursuit.

Sincerely,

Jean Kang, CIP
Manager, GPS IRB & Dissertation Support
Pepperdine University
Graduate School of Education & Psychology
6100 Center Dr. 5th Floor
Los Angeles, CA 90045
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W: 310-568-5753
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cc: Dr. Lee Kats, Associate Provost for Research & Assistant Dean of Research, Seaver College
Ms. Alexandra Roosa, Director Research and Sponsored Programs
Dr. Yuying Tsong, Interim Chair, Graduate and Professional Schools IRB
Ms. Jean Kang, Manager, Graduate and Professional Schools IRB
Dr. Michelle Rosensitto
Ms. Christie Dallo

APPENDIX B

Permission from Kouzes Posner International

KOUZES POSNER INTERNATIONAL
1548 Camino Monde
San Jose, California 95125
FAX: (408) 554-4553

June 22, 2010

[redacted]

Dear Mr. Gomez:

Thank you for your request to use the Leadership Practices Inventory (LPI) in your dissertation. We are willing to allow you to ***reproduce*** the instrument in written form, as outlined in your request, at no charge. If you prefer to use our electronic distribution of the LPI (vs. making copies of the print materials) you will need to separately contact Lisa Shannon (lshannon@wiley.com) directly for instructions and payment. Permission to use either the written or electronic versions requires the following agreement:

(1) That the LPI is used only for research purposes and is not sold or used in conjunction with any compensated management development activities;
(2) That copyright of the LPI, or any derivation of the instrument, is retained by Kouzes Posner International, and that the following copyright statement is included on all copies of the instrument; "Copyright 8 2003 James M. Kouzes and Barry Z. Posner. All rights reserved. Used with permission",
(3) That one (1) **electronic** copy of your dissertation and one (1) copy of all papers, reports, articles, and the like which make use of the LPI data be sent **promptly** to our attention; and,
(4) That you agree to allow us to include an abstract of your study and any other published papers utilizing the LPI on our various websites.

If the terms outlined above are acceptable, would you indicate so by signing one (1) copy of this letter and returning it to us. Best wishes for every success with your research project.

Cordially,

Ellen Peterson
Permissions Editor
epeterson@scu.edu

I understand and agree to abide by these conditions:

(Signed) _____ Date 7/6/10

Expected Date of Completion is: 7/30/10

APPENDIX C

Informed Consent Letter

22 March 2012

Dear Aerospace Executive:

I am a doctoral student in the Education – Organizational Leadership program at Pepperdine University conducting research for my dissertation. This study is being supervised by a faculty advisor, Dr. Michelle Rosensitto. The topic of my dissertation is *Leadership Effects on Organizational Culture in a Performance-based Business Environment.* I am inviting you to voluntarily participate in my study.

The purpose of this study is to identify those leadership attributes that have proven successful in highly regarded Performance-Based Life Cycle Sustainment programs, as recognized by public and private industry. In addition, this study seeks to determine what effect performance-based contracts have on organizational culture and identify what value is created as a result in the aerospace industry.

Your participation will include:

1) Filling out a Leadership Practices Inventory (LPI) instrument (LPI Assessment: Attachment 1) after reading the accompanying Statement for LPI and Questionnaire.

Note: Please see directions on attachment and ***return completed instrument by 28 March 2012.***

2) A personal interview that will be scheduled with your office administrator. The questionnaire (Attachment 2) is provided in advance and will be administered in person or by phone depending on your availability.

Below are the specifics:

The Leadership Practices Inventory (LPI) instrument is used for leadership measurement and describes five key transformational leadership behaviors that can be assessed.

(Posner & Kouzes, 1988) This study will help to develop an understanding of the lived experiences of successful leaders, how they achieve performance outcomes and to understand what attributes are essential in a collaborative organizational culture.

Your participation in this study involves completion of one hand-written, self-report survey (Attach. 1). As the facilitator of this study, I will ensure the study will be administered with no risk to you, and to make sure you are as comfortable as possible. The LPI assessment will take ~45 minutes. All information you provide will remain confidential. Your survey will be assigned a code number that will help me keep data collection sheets organized. I will be the only person who will have access to both the data sheets and the participant code list. The study data will be maintained securely for a period of three years. I will only report data in summary form and will not report individual scores. Please note:

- Participation in this study is voluntary
- There will be no audio or video taping
- Subjects do not have to answer questions and refusal or withdrawal from participation is at subjects discretion without negative consequences
- There will be not mention of subjects in study and confidentiality will be exercised

The interview and associated questionnaire (Attachment 2) will aide in answering three research questions that provide the basis of the study:

1. What are the attributes necessary for leading in a successful performance-based business environment?
2. What impact does leadership attributes have on organizational development in an Integrated Product Team culture?

3. How does organizational culture influence performance outcomes in a performance-based business environment?

The interview will be scheduled in your office or at a location that matches your schedule. The interview will take one hour. I will reserve time with you to address additional or follow-on questions required after compiling results from the LPI tool and questionnaire.

It is my responsibility to answer all questions and concerns about the study and you have the right to request a summary or copy of the results of the study.

It is important that you have been informed that your completion and submission of the survey instrument indicates your consent to participate.

It is my hope that your contribution to this study will lead to academic learning in institutions offering study in the Performance-based Life Cycle Support at undergraduate/graduate levels and provide guidance to future leaders in the public and private aerospace industry. I respect and will limit valued time on your schedule. Should you have any questions, please do not hesitate to contact me at [redacted]. My faculty advisor, Dr. Rosensitto may be reached at [redacted]. If I have questions about my rights as a research participant, I may contact Pepperdine University graduate and Professional Schools Institutional Review Board (GPS IRB) at (310) 568-5753 or at gpsirb@pepperdine.edu. Thank you in advance for your time and participation.

Sincerely,

Richard. A. Gomez, MBA, CPL

Doctoral Candidate

APPENDIX D

Accompanying Statement for LPI and Questionnaire

Dear Participant:

Thank you for your participation in a research study entitled "Leadership Effects on Organizational Culture in a Performance-based Business Environment" that is being conducted in partial fulfillment of requirements for a doctoral dissertation in organizational leadership.

Please note:

- Participation in this study is voluntary
- There will be no audio or video taping
- Subjects do not have to answer questions and refusal or withdrawal from participation is at subjects discretion

There will be not mention of subjects in study and confidentiality will be exercised

The LPI-Individual includes the use of the LPI Self-assessment; a 30-item instrument helps individuals measure their leadership competencies, while guiding them through the process of applying Kouzes and Posner's Five Practices of Exemplary Leadership® Model to real-life organizational challenges. This instrument was determined by the researcher to be ideal for use, to assess the leadership attributes of proven leaders in a performance-based outcome environment. The LPI Instrument provides both seasoned and aspiring leaders who need a quick and easy way to rate themselves on The Five Practices® behaviors in their performance as leaders: (a) modeling the way, (b) inspiring

a shared vision, (c) challenging the process, (d) enabling others to act, (e) encouraging the heart (Leadership Challenge, 2012).

Overall, the LPI has excellent concurrent validity, and leadership scores are consistently associated with important aspects of managerial and organizational effectiveness such as workgroup performance, team cohesiveness, commitment, satisfaction, and credibility.

APPENDIX E

Leadership Practices Inventory (LPI) Assessment

1. Years of service at your Aerospace and Defense Company

❒ 0 – 5 ❒ 6 – 10 ❒ 11 – 15 ❒ 16 – 20 ❒ > 20

2. Total years professional work experience:

❒ < 15 ❒ 16 – 20 ❒ 21 – 25 ❒ 26 – 30 ❒ > 30

3. Highest level of education achieved (check one):

❒ High School ❒ Bachelors ❒ Masters ❒ Doctorate ❒ None of the above

Instructions:

On the next two pages are thirty statements describing various leadership behaviors. Please read each statement carefully. Then rate *yourself* in terms of *how frequently* you engage in the behavior described. *This is not a test* (there are no right or wrong answers). The usefulness of the feedback from this inventory will depend on how honest you are with yourself and how frequently you *actually* engage in each of these behaviors.

Consider each statement in the context of your executive leadership position. As you respond to each statement, maintain a consistent perspective to your particular

organization. The rating scale provides five choices. Circle the number that best applies to each statement:

(1) If you RARELY or SELDOM do what is described

(2) If you do what is described ONCE IN A WHILE

(3) If you SOMETIMES do what is described

(4) If you OFTEN do what is described

(5) If you VERY FREQUENTLY or ALMOST ALWAYS

In selecting the response, be realistic about the extent to which you *actually* engage in the behavior. Do *not* answer in terms of how you would like to see yourself or in terms of what you should be doing. Answer in terms of how you *typically* behave.

For example, the first statement is "I set a personal example of what I expect from other people." If you believe you do this *once in a while,* circle the number 2. If you believe you do this *often,* circle the number 4. Select and circle only one option (response number) for each statement.

Please respond to every statement. If you can't respond to a statement (or feel that it doesn't apply), circle a 1. When you have responded to all thirty statements, please turn to the response sheet on the back page and transfer your responses as instructed. PLEASE NOTE INSTRUCTIONS TO RETURN RESULTS ON BACK PAGE. Go to next page.

How frequently do you *typically* engage in the following behaviors and actions? *Circle* the number to the right of each statement using the scale below that best applies.

1	2	3	4	5
rarely or seldom	once in a while	sometimes	very often	frequently

1.	I set a personal Example of what I expect from other people.	1	2	3	4	5
2.	I look ahead and communicate about what I Believe will affect us in the future.	1	2	3	4	5
3.	I look around for ways to develop and challenge my skills and abilities.	1	2	3	4	5
4.	I foster cooperative rather than competitive relationships among people I work with.	1	2	3	4	5
5.	I praise people for a job well done.	1	2	3	4	5
6.	I spend time and energy making sure that People in our organization adhere to the principles and standards we have agreed upon.	1	2	3	4	5

	1 rarely or seldom	2 once in a while	3 sometimes	4 very often	5 frequently
7.	I describe to others in our organization what we should be capable of accomplishing.	1	2	3	4	5
8.	I look for ways that others can try out new ideas and methods.	1	2	3	4	5
9.	I actively listen to diverse points of view.	1	2	3	4	5
10.	I encourage others as they work on activities and programs in our organization.	1	2	3	4	5
11.	I follow through on the promises and Commitments I make in this organization.	1	2	3	4	5
12.	I talk with others about sharing a vision of how much better the organization could be in the future.	1	2	3	4	5
13.	I keep current on events and activities that might affect our organization.	1	2	3	4	5
14.	I treat others with dignity and respect.	1	2	3	4	5

	1 rarely or seldom	2 once in a while	3 sometimes	4 very often	5 frequently
15. I give people in our organization support and express appreciation for their contributions.	1	2	3	4	5
16. I look ahead and communicate about what I Believe will affect us in the future.	1	2	3	4	5
17. When things do not go as we expected, I ask, “What can we learn from this experience?”	1	2	3	4	5
18. I support the decisions that other people in our organization make on their own.	1	2	3	4	5
19. I make it a point to publicly recognize people who show commitment to our values.	1	2	3	4	5
20. I build consensus on an agreed-upon set of values for our organization.	1	2	3	4	5
21. I am upbeat and positive when talking about what our organization aspires to accomplish.	1	2	3	4	5
22. I make sure that we set goals and make specific plans for the projects we undertake.	1	2	3	4	5
23. I give others a great deal of freedom and choice in deciding how to do their work.	1	2	3	4	5
24. I find ways for us to celebrate accomplishments.	1	2	3	4	5
25. I talk about the values and principles that guide my actions.	1	2	3	4	5

	1 rarely or seldom	2 once in a while	3 sometimes	4 very often	5 frequently
26. I speak with conviction about the higher purpose and meaning of what we are doing.	1	2	3	4	5
27. I take initiative in experimenting with the way we can do things in our organization.	1	2	3	4	5
28. I provide opportunities for others to take on leadership responsibilities.	1	2	3	4	5
29. I make sure that people in our organization are creatively recognized for their contributions.	1	2	3	4	5

Transferring the Responses

After you have responded to the thirty statements on the previous two pages, please transfer your responses to the blanks below. This will make it easier to record and score your responses.

Notice that the numbers of the statements are listed *horizontally* across the page. Make sure that the number you assign to each statement is transferred to the appropriate blank. Remember to fill in a response option (1,2,3,4,and 5) for every statement.

1. _____	2. _____	3. _____	4. _____	5. _____
6. _____	7. _____	8. _____	9. _____	10. _____
11. _____	12. _____	13. _____	14. _____	15. _____
16. _____	17. _____	18. _____	19. _____	20. _____
21. _____	22. _____	23. _____	24. _____	25. _____
26. _____	27. _____	28. _____	29. _____	30. _____

APPENDIX F

The Interview Questions

The interview questions were developed, tested, and distributed to five senior leaders from three major aerospace companies with global business reach. Each of these participants were selected based on their success in leading high valued (greater than $500M- Public Domain Data) programs with success based on receiving DoD level awards for their contribution to national defense, while executing performance-based contracts for life cycle sustainment programs. The actual interview questions were be provided in advance, returned to the researcher, and clarifying questions were developed to ensure a thorough understanding of the interviewee's response. The following provides detail of the interview structure by section:

Section A - Background, Leader's role, and leadership style: To begin the interview process, the researcher would like to understand the leader's past history, role in the successful PBL program, and leadership style used to execute a performance-based program.

1. How many years have you been involved in performance-based Life Cycle Sustainment programs for major weapon systems?
2. What led you to this profession?
3. What does culture mean to you in a performance-based Life Cycle Sustainment program?
4. How would you define a successful performance-based Life Cycle Sustainment program?

5. What are your views on Integrated Product Teams? How do they influence outcomes?
6. What leadership attributes are most effective in a performance-based business environment?
7. How do those attributes support/influence organizational development?
8. What do you believe are the key ingredients for leaders executing a performance-based contract?

Section B - Barriers/Obstacles

9. What do you see as the top challenges with Life Cycle Sustainment programs from a government (public) view?
10. What do you see as the top challenges with Life Cycle Sustainment programs from an aerospace industry (private) view?
11. What do you see as the "common" challenges between public/private organizations in a performance-based business environment?

Section C - Behavioral Questions

12. What do you believe is the key enabler to employees executing a performance-based contract from a government (public) view?
13. What do you believe is the key enabler to employees executing a performance-based contract for an aerospace industry (private) view?
14. What do you see as the top three enablers to a collaborative organizational environment that will drive positive organizational culture?

15. What motivates employees/teams most in a performance-based business environment?
16. What else would you add that may impact individual, team and cultural behavior in a performance-based business environment (what do you believe is the “secret sauce”)?

APPENDIX G

PBL Newsletter

APPENDIX H

LPI Survey Results

PI 5 Practices	Exec 1	Exec 2	Exec 3	Exec 4	Exec 5	Total	*M*	*SD*	Var.	Range
Model the way	23	27	23	23	23	119	23.8	1.8	3.24	4
Inspire a shared vision	26	29	18	23	21	117	23.4	4.3	18.49	11
Challenge the process	24	27	20	24	24	119	23.8	2.5	6.25	7
Enable others to act	27	30	23	24	26	130	26.0	2.7	7.29	7
Encourage the heart	23	29	21	22	25	120	24	3.2	10.24	8

LPI Individual Scores:

L P ,Respondent (R1) A,5,4,4,5,4,3,4,4,4,4,5,5,4,5,4,3,4,5,4,4,4,4,3,5,4,3,5,4,4,3

L P , (R2)A,5,5,5,5,5,4,5,4,5,5,5,4,5,5,5,4,5,5,5,5,5,5,4,5,4,4,5,4,5,5

L P , (R3)A,5,3,4,3,3,4,4,2,4,4,4,2,3,4,4,3,2,3,4,4,4,4,5,4,2,3,3,3,4,4

L P , (R4)A,4,3,4,3,3,4,4,4,4,4,4,4,5,4,3,4,4,4,4,4,4,4,4,3,4,4,4,4,4

L P , (R5)A,4,4,3,5,5,3,3,4,4,4,5,3,5,5,4,4,4,4,3,4,4,4,4,5,4,3,3,4,4,4

APPENDIX I

LPI Scores: Combined Totals

(Determine Specific Themes of Highly Successful Leaders)

LPI Questions and scoring (1-5)		R1	R2	R3	R4	R5	Total
1.	I set a personal Example of what I expect from other people.	5	5	5	4	4	23
2.	I look ahead and communicate about what I Believe will affect us in the future.	4	5	3	3	4	19
3.	I look around for ways to develop and challenge my skills and abilities.	4	5	4	4	3	20
4.	I foster cooperative rather than competitive relationships among people I work with.	5	5	3	3	5	21
5.	I praise people for a job well done.	4	5	3	3	5	20
6.	I spend time and energy making sure that People in our organization adheres to the principles and standards we have agreed upon.	3	4	4	4	3	18
7.	I describe to others in our organization what we should be capable of accomplishing.	4	5	4	4	3	20
8.	I look for ways that others can try out new ideas and methods.	4	4	2	4	4	18
9.	I actively listen to diverse points of view.	4	5	4	4	4	21
10.	I encourage others as they work on activities and programs in our organization.	4	5	4	4	4	21
11.	I follow through on the promises and Commitments I make in this organization.	5	5	4	4	5	23
12.	I talk with others about sharing a vision of how much the org can be in the future.	5	4	2	4	3	18
13.	I keep current on events and activities that might affect our organization.	5	5	3	4	5	22
14.	I treat others with dignity and respect.	5	5	4	5	5	24
15.	I give people in our organization support and express appreciation for their contributions.	4	5	4	4	4	21
16.	I find ways to get feedback about how my actions affect other people's performance.	3	4	3	3	4	17
17.	I look ahead and communicate about what I Believe will affect us in the future.	4	5	2	4	4	19
18.	When things do not go as we expected, I ask, "What can we learn from this experience?"	5	5	3	4	4	21
19.	I support the decisions that other people in our organization make on their own.	4	5	4	4	3	20
20.	I make it a point to publicly recognize people who show commitment to our values.	4	5	4	4	4	21

21.	I build consensus on an agreed-upon set of values for our organization.	4	5	4	4	4	21
22.	I am upbeat and positive when talking about what our organization aspires to accomplish.	4	5	4	4	4	21
23.	I make sure that we set goals and make specific plans for the projects we undertake.	3	4	5	4	4	20
24.	I give others a great deal of freedom and choice in deciding how to do their work.	5	5	4	4	5	23
25.	I find ways for us to celebrate accomplishments.	4	4	2	3	4	17
26.	I talk about the values and principles that guide my actions.	3	4	3	4	3	17
27.	I speak with conviction about the higher purpose and meaning of what we are doing.	5	5	3	4	3	20
28.	I take the initiative in experimenting with the way we can do things in our organization.	4	4	3	4	4	19
29.	I provide opportunities for others to take on leadership responsibilities.	4	5	4	4	4	21
30.	I make sure that people in our organization are creatively recognized for their contributions.	3	5	4	4	4	20